

TRACHEOSTOMY REVIEW AND MANAGEMENT SERVICE (TRAMS)

CLINICAL GUIDELINE

TRACHEOSTOMY RELATED BLEEDING

Staff this document applies to:

- All Austin Health Sites
- Medical staff, Nursing, Physiotherapists and Speech Pathologists

Related Austin Health policies, procedures or guidelines:

[Austin Hospital Escalation Response to Clinical Deterioration](#)

[Initiating a MET Call response](#)

[Management of patients with a Tracheostomy](#)

[Mandatory Tracheostomy Equipment & Emergency Tracheostomy Management Poster](#)

[Medical emergency review \(MER\) call](#)

[Suctioning via the Tracheostomy](#)

[Tracheostomy Stoma Care](#)

Purpose:

Tracheostomy is a common procedure involving the placement of an artificial subglottic airway. It may be performed for a variety of reasons, including as part of the management of head & neck cancers, respiratory failure or neurological problems. While serious bleeding from a tracheostomy site is relatively rare, there are occasions where life-threatening erosion into a major vessel can occur. This document is intended to guide assessment and timely management of tracheostomy related bleeding.

Clinical Alert

- All bleeding from a tracheostomy site is potentially serious.
- A clinician with advanced airway skills or advanced tracheostomy knowledge should be involved in evaluation at an early stage in all cases.
- The home team must be notified of the bleed and appropriately direct action for management and or investigation.
- The specialist surgeon or intensivist who inserted the tracheostomy should be consulted immediately and provide advice. Refer to Cerner for tracheostomy insertion documentation.

Categorising Tracheostomy Related Bleeding

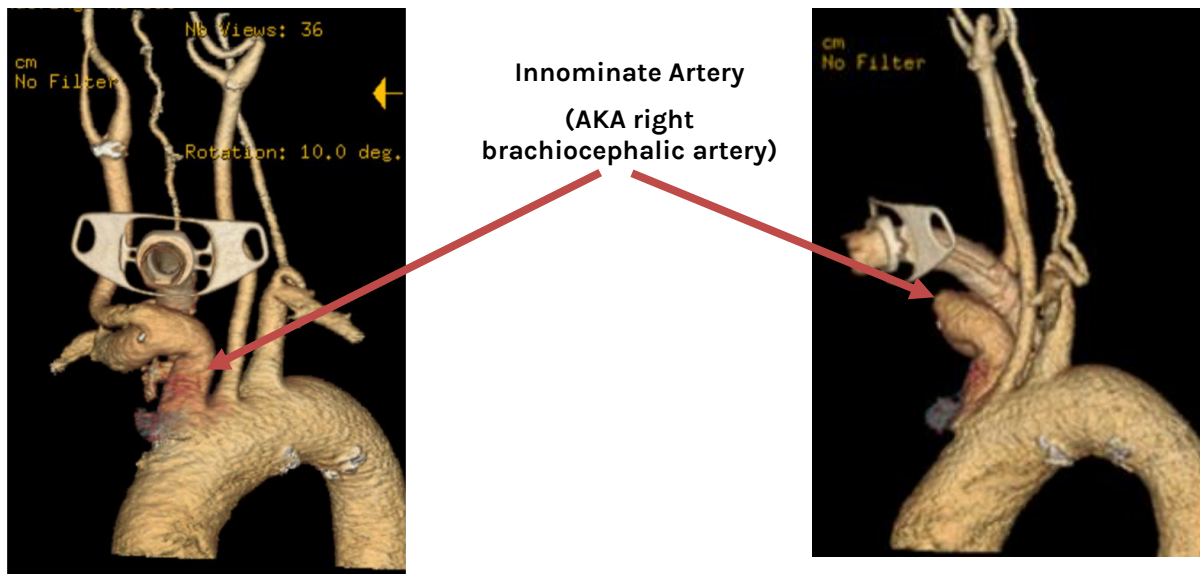
The potential causes for tracheostomy related bleeding depend very much on the time that has passed since the formation of stoma and tracheostomy tube insertion.

Early bleeding (< 4 days)

- Skin related bleeding
- Thyroid related bleeding
- Related to anticoagulant or antiplatelet therapy

Late bleeding (> 4 days)

- Mucosal trauma (e.g. from suction catheters)
- Granulation tissue
- Erosion into a large artery (e.g. tracheo-innominate fistula)



Pulsatile Tracheostomy Tubes

A pulsating tracheostomy tube (TT) may indicate close proximity to a large vessel, which in itself is a risk factor for a major haemorrhage. This requires an emergent review the first time it is detected and in all cases, a clinician with advanced airway skills or advanced tracheostomy knowledge should be involved in evaluating it at an early stage. The primary treating team, and the specialist surgeon or intensivist who inserted the tracheostomy must be notified of the pulsatile tracheostomy tube and appropriately direct action for management and/or investigation. If bleeding is noted from a pulsatile tracheostomy tube, the clinical teams should consider a CT angiogram to assess proximity to the innominate artery.

Tracheostomy Bleeding & Actions

Small volume bleeding via the tracheostomy and/or the stoma may be a precursor of a major haemorrhage and the treating clinician must always thoroughly assess and give consideration to the possibility of a tracheo-innominate artery fistula.

Tracheo-innominate artery fistula is a rare late complication associated with a high mortality rate. Erosion occurs in less than 1% of tracheostomy cases and is usually associated with:

- Low placement of tracheostomy tube.
- Excessive movement of the TT.
- Over inflation of the cuff.
- Suboptimal tracheostomy tube positioning.

	Immediate Actions	Consider
Small Volume Bleed If < 10mls of bright blood (e.g. blood contained within dressing or on suctioning)	• Activate the “Urgent Clinical Review” process • Measure vital signs • Discuss with specialist surgeon or intensivist who inserted the tracheostomy tube.	• CT/CT angiogram to assess proximity to innominate artery. If CT angiogram confirms close proximity, consider early decannulation (risk vs benefit).
Major haemorrhage/ Suspected arterial erosion If > 10mls of bright blood (e.g. stoma dressing soaked and blood leaking beyond dressing) or continuous active bleeding and/or associated hypoxaemia or respiratory distress	• Activate RESPOND BLUE • Inflate cuff • Sit the patient up • Administer supplemental oxygen via tracheostomy • Ensure functional wide-bore IV access • Monitor vital signs • Notify the <u>surgeon/intensivist responsible</u> for the insertion of the tracheostomy.	• Hyper-inflation of the tracheostomy cuff. and/or • Direct digital compression of the bleeding point.

If a major haemorrhage/suspected arterial erosion occurs, the patient must have their airway secured by a clinician with advanced airway skills (specialist airway responder) and be transferred to the operating room or interventional radiology suite for further evaluation and intervention. Further investigations and interventions will be at the direction of the treating Intensivist and Thoracic/ENT/Maxillofacial surgeon involved.

If the cuff is inflated, **do not deflate cuff** until expert clinical assistance is available as it is possible the inflated cuff is tamponading the blood vessel.

TRAMS collects data on tracheostomy adverse events. Please notify TRAMS by phone extension 3095 or via Cerner referral.

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