

Royal Hospital for Women (RHW)

BUSINESS RULE

Suction – Closed Tracheal Suction from an Endotracheal Tube

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1. BACKGROUND

Maintaining a patent airway in invasively ventilated infants is critically important for effective ventilation and oxygenation. A closed tracheal suction system allows secretions to be removed from the airway without interrupting ventilatory support.

2. RESPONSIBILITIES

Medical and Nursing Staff

3. PROCEDURE

3.1 Equipment

- Avanos Ballard closed suction system of an appropriate size for endotracheal tube (ETT) including the Y-adaptor
- Suction gauge at wall set to 100 mmHg
- Suction tubing attached to suction valve at the wall
- Suction bag and canister on the wall
- Normal saline in a 2 mL slip tip syringe
- Measuring tape to ensure correct catheter length based on endotracheal tube

3.2 Clinical Practice

1. Assess the infant's need for suctioning (e.g. visible secretions in ETT, increasing restlessness and bradycardia, increasing hypoxia with decreasing SpO₂, loss of chest movement, adventitious breath sounds).

NOTE: Pre-oxygenation is not routinely required prior to endotracheal suctioning.

2. Perform hand hygiene.
3. Attach control valve to suction tubing.
4. Check suction pressure by depressing and hold the closed suction control valve, set pressure to 100 mmHg.
5. Instil 2 ml of 0.9% saline in a slip tip syringe to the syringe port (Figure 1 [solid circle]).
6. Remove the blue connector from the ETT and attach the appropriate sized Y-adaptor (Picture 1 [dashed circle]) to the ETT (Figure 1 [A]).
7. Attach Ballard adaptor to ventilation circuit (Figure 1 [B]) and suction tubing (Figure 1 [C]).
8. Measure the required distance for suction catheter to be passed with reference to "ETT Suction Catheter Measurement Chart" (refer to chart located on the wall by the x-ray machine) (Table 1).
9. Document on the neonatal observation chart, the colour of suction length based on size of ETT.
10. Stabilise the ETT by holding the ETT and Y-adaptor with one hand and advance the catheter with the opposite hand until desired length has reached the window in the Y-adaptor (Figure 1 [D]).
11. Continue to stabilise the ETT and apply suction by depressing the suction control valve (Figure 2).

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ETT SIZE	COLOUR	INSERTION DEPTH
2.0 mm	Green	16 cm
2.5 mm	Purple	17 cm
3.0 mm	Double red	20 cm
3.5 mm	Double yellow	22 cm
4.0 mm	Double black	23 cm

Table 1. Closed suction catheter measurements.

12. Gently withdraw the catheter to its full extent.
13. Flush catheter with 0.9% sodium chloride while depressing the suction control valve (in order to maintain patency of suction catheter and tubing) (Figure 2).
14. Repeat if necessary.
15. Rotate and lock suction control valve (45° turn) (Figure 3).

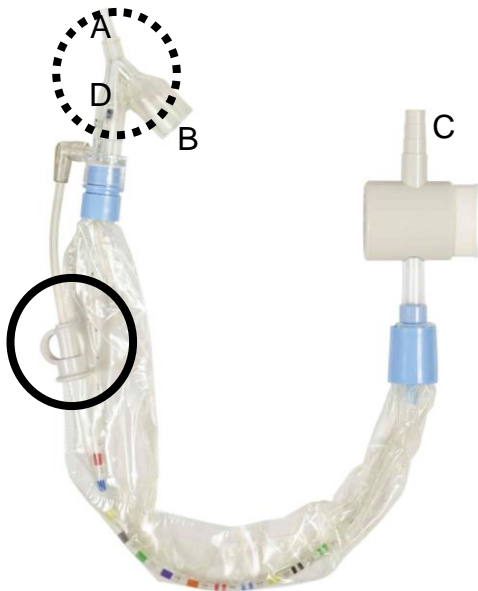


Figure 1



Figure 2



Figure 3

4. ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.

5. ABBREVIATIONS

NCC	Newborn Care Centre	ETT	Endotracheal Tube
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6. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
1/9/2022	1	B Walker (ACNE); Primary document approved NCC CBR Committee
15/9/2022		Approved by RHW Safety and Quality Committee