

## Replogle Tube-Nursing Care of Infant in NICU

### Procedure Responsibilities and Authorisation

<b>Department Responsible for Procedure</b>	NICU
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<b>Target Audience</b>	Nurses
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### Procedure Review History

Version	Updated by	Date Updated	Summary of Changes
1	Leanne Baker	Aug 2009	First version
2	Joyce Mok	Jan 2014	3 yearly update
3	Joyce Mok	Jan 2017	3 yearly update
4	Richard Pagdanganan	July 2020	3 yearly update

## Replogle Tube-Nursing Care of Infant in NICU

### 1 Overview

#### 1.1 Purpose

To outline the care of an infant with trachea-oesophageal fistula/atresia by providing low grade suction to remove secretions with the use of a replogle tube.

#### 1.2 Scope

Waikato District Health Board (DHB) staff working in Neonatal Intensive Care Unit (NICU).

#### 1.3 Patient / client group

Neonates and infants in NICU

#### 1.4 Definitions

<b>Oesophageal Atresia</b>	A congenital anomaly in which the oesophagus ends in a blind upper pouch. Most neonates with OA also have an abnormal connection between the trachea and oesophagus; this is called a trachea-oesophageal fistula (TOF).
<b>NNP</b>	Neonatal Nurse Practitioner
<b>CNS</b>	Clinical Nurse Specialist
<b>Replogle Tube</b>	It is a double lumen radio-opaque tube, where the clear larger lumen is for drainage and the blue smaller lumen functions as an air vent. The replogle tube is mainly used to give continuous suction and irrigation to facilitate adequate drainage of the upper oesophageal pouch. A continuous low pressure suction (-15cm to -35 cmH20) is applied, thus allowing the pouch to be kept clear of saliva and secretions which can spill into the lungs.
<b>Tracheo-oesophageal fistula (TOF)</b>	A fistula is present between proximal and/or distal oesophagus and the airway.

### 2 Clinical Management

#### 2.1 Competency required

Registered nurses who have completed Level III orientation

#### 2.2 Equipment

- Replogle tube 10 Fr (In the store room shelf from top, shelves next to boxes of paper towels).
- A spare replogle tube at bedside
- Gloves
- Suction Unit

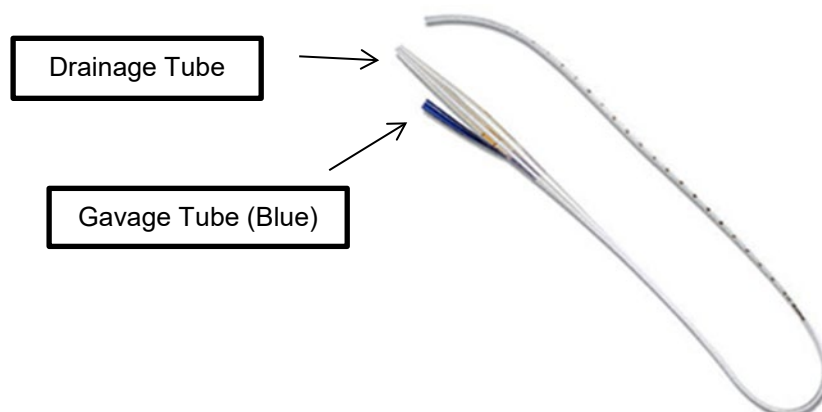
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- 30ml syringe
- Extension tubing (1.8ml tubing)
- 0.9% Sodium Chloride (30-50mls)
- Suction Catheter
- Brown Tapes
- Duoderm for base tape
- Mucous trap (equipment room-“Lab Shelf” 5th from the top at the top of the basket) or in the IV trolleys in Nursery 1 & 4



NOTE: Consider use of replogle tube 8Fr for infants < 32 weeks



### 2.3 Procedure

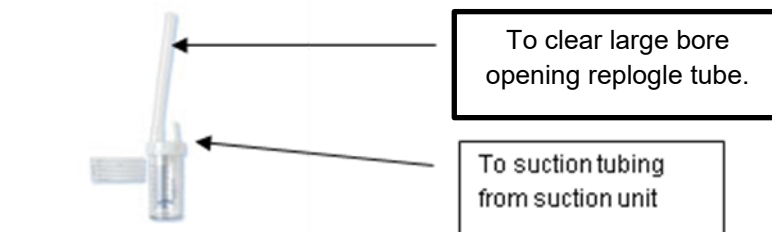
#### 2.3.1 Insertion/placement of replogle tube

- Preparation
  - Perform hand hygiene
  - Assemble equipment on sterile guard.

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- Inform the family of the following:
  - that a replogle tube will need to be passed.
  - what a replogle tube is.
  - what it entails and the reason for passing a replogle tube.
  - the likely duration of the procedure
  - how long the tube will stay in situ
- Open replogle tube on sterile guard
- Perform hand hygiene and put on sterile gloves.
- Suction infant in preparation for the tube insertion to ensure airways and oropharynx are clear.
  - Insert orally if infant is very small or has choanal atresia.
  - Insert gently until resistance is felt then withdraw tube very slightly (usually 10-12 cm approximately for term infants on the lips) to ensure that the tube is not causing pressure to the pouch mucosa.
  - Apply duoderm as a base tape and secure the tube with a brown tape.
  - Note and document the length of insertion. Put a sticky label and write in the date and the length of insertion.
- Insert to low suction
  - Attach mucous trap to suction tubing unit on low suction to provide clear view of patency of replogle tube and allow measurement of drainage.
  - Set suction at 25-30 mmHg to aid in reducing secretion build up and reduce risk of mucosal damage from the suction pressure.



NB: If unable to maintain appropriate accurate suction pressure directly from suction unit-an atrium chest drain unit may be used to control the suction pressure.

- 0.9% Sodium Chloride flush
  - 0.9% Sodium Chloride flush is used to maintain patency and prevent replogle tube obstructing.
  - The gavage tube (Smaller blue tube) is used for either intermittent flushes at 0.5ml per 15minutes or continuous infusion of 0.9 % Sodium Chloride at 1-2ml/hr.

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- Flush and mode (i.e. intermittent or continuous) must be charted by medical staff (NNP/CNS/Registrar)
- Smaller blue tube (at the top end of the replogle tube) is used for either intermittent 0.9% sodium chloride flushes at 0.5ml per 15 minutes or continuous infusion of normal saline at 1-2 mls/hr.
- Position of infant
  - Position infant on a slight head up tilt, lateral or prone to avoid potential of aspiration.
  - Apply developmental care support.

NB: Observe for decrease in salivation or dribbling. This is an indication that the tube is in correct place and effective.

### 2.3.2 Replogle Tube care and maintenance:

- Tube change
  - Change every 4 days or PRN if secretions are very thick.
  - The tube function diminishes when there are excessive and/thick secretions in the lumen.
  - Use alternate nostrils for insertion to prevent damaged nostrils.
- Observations and recording
  - Vigilant monitoring and assessment is required while replogle tube is in situ to recognise possible blockage or dislodgement of tube.
  - The insertion site must be assessed hourly to monitor the skin around the nose, and document. Watch for signs of excoriation and damage to nasal mucosa.
  - Observe hourly the placement of the replogle tube is at the correct length.
  - Record hourly saline infusion.
  - Measure the drainage 4-hourly and PRN as needed to assess the amount and characteristics of the fluid.
  - Monitor and record hourly the suction pressure.
  - Continuous monitoring and record HR< RR, and SpO<sub>2</sub> hourly.
- Suction
  - Ensure functioning alternative suction equipment is available at the bedside as it may be necessary if tube becomes blocked and waiting for replacement.
- Monitor pressure of suction:
  - If the pressure on the suction starts to increase this may be a sign that the replogle tube is blocked or it is adhered to the eosophageal wall.
  - If pressure is too high, this can cause tissue damage.

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### 2.3.3 If replogle tube is not draining:

- Check if suction is functioning correctly.
- Check the placement of the replogle tube in the nose to ensure that the depth is still correct.
- Move tube gently in the nostril in the nostril because tube may be occluded by its position in the pouch.
- Instill 1-2 mls of 0.9% sodium chloride for injection into the blue lumen of the replogle tube and observe what happens. Normally, 0.9 sodium chloride should be seen moving down the main lumen of the tubing during the installation.
- If there is still no movement of the secretion seen through the tube, or no return of 0.9 % sodium chloride, remove the replogle tube, flush to ensure that it is patent and re-insert.
- If above steps still do not work, tube may need to be replaced.
- Call for assistance for re-insertion.
- Inform medical team.

NB: If at any point that the infant becomes respiratory compromised do not trouble shoot using the above test, inform the nurse coordinator or ACNM and the medical team- immediate action is required.

### 2.4 After care

- Clear away equipment and dispose as per Waikato DHB policy.
- Perform hand hygiene.
- Document procedure and infant's tolerance of the procedure in clinical notes.

## 3 Audit

### 3.1 Indicators

- Replogle tubes are changed no more than every four days
- The flush and the mode are charted by medical staff
- There is documented evidence that observations are taken as per 2.3.2

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