Endotracheal Tube Taping: Nasal & Oral in Newborn Intensive Care Unit (NICU)

Procedure Responsibilities and Authorisation

Department Responsible for Procedure	NICU
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Target Audience	Nurse Practitioners, Clinical Nurse Specialist, Nurses, Registrar, Senior Medical Officers
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Procedure Review History

Version	Updated by	Date Updated	Summary of Changes
1	Jape Pope	May 2015	Existing procedure putting into new format
2	Jane Pope	Oct 2019	Due for review
3	Jane Pope	April 2023	Updated with photos

Endotracheal Tube Taping: Nasal & Oral in Newborn Intensive Care Unit (NICU)

1 Overview

1.1 Purpose

To outline the steps to secure a nasal/oral endotracheal tube (ETT)

1.2 Scope

Staff working in Te Whatu Ora Waikato

1.3 Patient / client group

Babies and infants in NICU

2 Clinical Management

2.1 Competency required

- Nurse Practitioners, Clinical Nurse Specialists, Registrars and Senior Medical Officers
- Registered Nurse who have completed the learning package, supervised practical procedures and obtained competence according to NICU Advanced Procedure requirements

2.2 Equipment

- Tapes, e.g. sleek, Elastoplast™, brown tapes
- 4.0 silk
- Duoderm™
- Gauze and water for cleaning
- Cavilon™ swab, if necessary, for removing old tapes
- Emergency equipment, e.g. resuscitation trolley, Neopuff™, and suction equipment, etc.

2.3 Procedure

2.3.1 Prepare ETT straps for nasal ETT taping

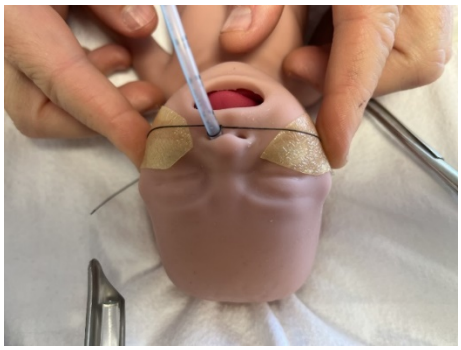
Tape: sleek or zinc oxide

1. *Width:*
   (a) About 2.5cms for >3.5kg
   (b) Half way between for the spectrum of babies between these extremes.
   (c) 1.3cms for babies <800grams
2. *Length:* from nose to just in front of ear x2.
3. Cut two trouser legs.
4. Fold back all edges 2mm for ease of removal or replacement

2.3.2 Taping of nasal ETT

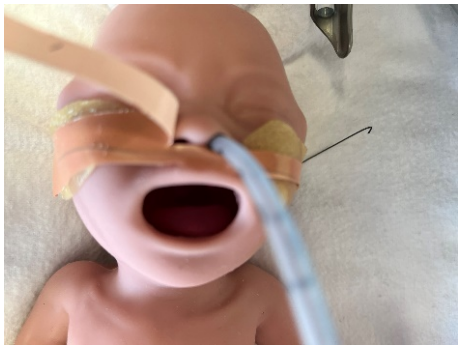
<u>The String</u> (4.0 silk)

1. Apply Duoderm™ as base tape to maintain skin integrity
2. Cut a length of black silk; length depends on weight/size of infant.
3. Tie black silk around tube: Reef-knot with extra throw on first turn.
4. Should be tight enough to firmly grip tube, but not so tight it narrows the tube.
5. Knot should be on the underside of tube to avoid pressure area on upper part of nostril and septum.



1st "Tape" Trouser

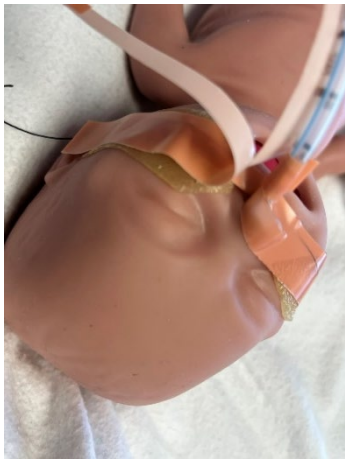
1. Begin on opposite cheek from the nostril intubated
   a. Try to keep Duoderm™ & tapes out of eye crease.
2. Place "crutch" of trouser just beside the ala of the nose.
3. Upper leg go es as high as possible on bridge of nose and then down and around the tube.
4. Lower leg goes across to catch string down to other cheek onto Duoderm™



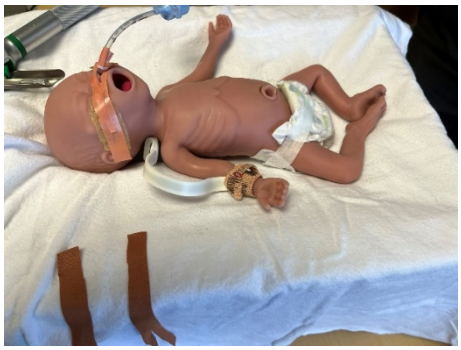
2nd "Tape" Trouser

(The reverse of the 1st leg)

1. Upper leg goes over bridge of nose and down onto cheek (Duoderm™).
2. Lower leg goes under then up and around the tube, i.e. both legs wind the same way around tube



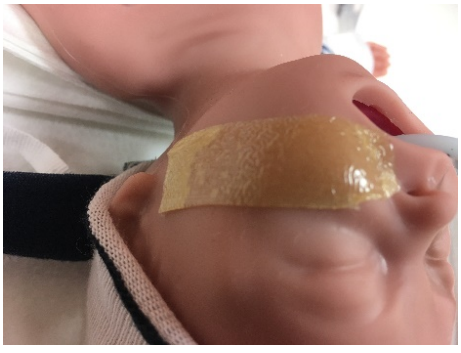
Either sleek or brown tape can be used to tape ETT



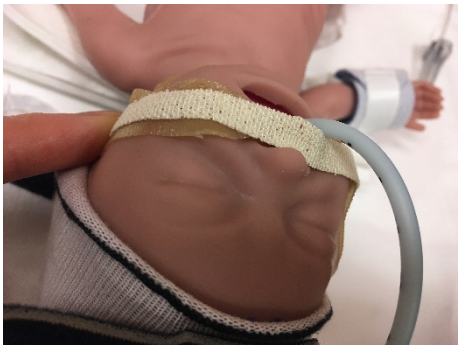
2.3.3 Preparing tapes and taping of oral ETT

1. Cut 2 long strips of tapes e.g. Elastoplast™, they should be the width of the space between the top lip and the nose and use Duoderm™ for babies with fragile skin. These tapes do not need to be folded back as the tape is so thick.

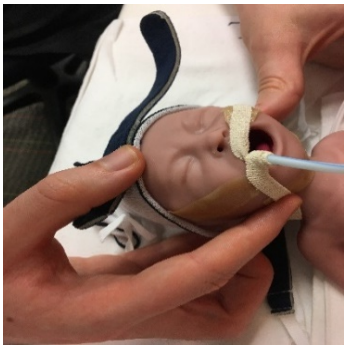
2. The ETT should lie in the right corner of the mouth.



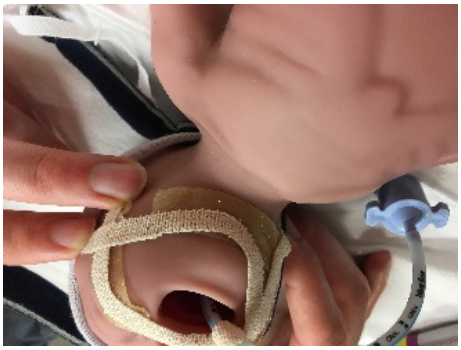
3. Place the first strip of tape from the opposite side of the face (from beside the left ear) across the top lip and around the ETT clockwise twice.



4. Then place this strip at about a 45o angle down onto the neck.

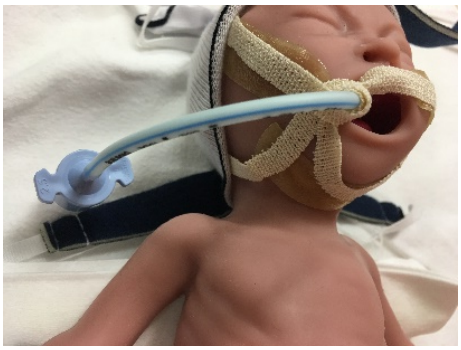


5. Start the second strip at right angles to the first one.



6. Tape down under the chin then up to the ETT, wrap around the ETT once.

   Tape at a 45 degree angle from lip to the hairline.



2.3.4 Karolinska method of Nasal ET taping

1. Cut two ‘trouser leg’ lengths of sleek or zinc oxide tape (the length of which should be slightly longer than the ear to ear measurement of the baby).

2. For term babies prepare the skin with Cavilon (both cheeks, nose and forehead, also the bridge of the nose and philtrum), for preterm babies continue to use DuodermTM.

3. Start at the side nearest the ETT and stick the wide end horizontally on the cheek with the ‘trouser leg’ split at the corner of the nose.

4. Wrap the bottom strip once around the ETT, starting underneath, then secure the rest of the strip vertically up the centre of the forehead, taking care not to compress the nose. (This is anticlockwise for an ETT in the right nostril, and clockwise for an ETT in the left nostril).
5. Take the top strip and secure it horizontally over the bridge of the nose and across to the opposite ear.
6. Take the second ‘trouser leg’ piece of tape and starting at the opposite side to the first, secure horizontally, with the trouser leg split at the corner of the nose away from the ETT.

7. Wrap the bottom strip in a spiral around the ETT until it runs out, starting underneath and taking care to leave space between each loop so that the numbers on the ETT are visible. (This will be clockwise for an ETT in the right nostril and anticlockwise for an ETT in the left nostril).

8. Then take the top strip and wrap it once in the opposite direction to the spiral around the bottom of the ETT, then run it along the top of the first tape in the opposite direction.

2.4 Potential complications

- Dislodgement of ETT
- Skin injury when old tapes are removed
  - Infection to broken skin
- Pressure injury

2.5 After care

- Clean and replace used equipment
- Check intubation depth maintained

3 Audit

3.1 Indicators

- Tape is cut and divided as per 2.3.1
- Nasal ETT are affixed as per 2.3.2 & 2.3.4
- Oral ETT are affixed as per 2.3.3
- Unplanned extubations

4 Evidence base

4.1 References

Kenner, C. & Lott, J.W. (2014). *Comprehensive Neonatal Nursing Care* (5th Ed.) (eBook). New York, NY: Springer Publishing Company.

4.2 Associated Te Whatu Ora Waikato Documents

- Admission to Intensive Care Level 3 nursery in Newborn Intensive Care Unit (NICU) (4571)
- Care of Ventilated Infant in Newborn Intensive Care Unit (NICU) (0432)
- Endotracheal Suctioning in Newborn Intensive Care Unit (NICU) (5962)