

Title :	<b>Initial Management of an Infant with Oesophageal Atresia</b>
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## **1.0 Introduction**

This document is based on an existing guideline written by the Paediatric Surgeons at Birmingham Children's Hospital and used for several years at Birmingham Women's. It has been adapted for wider use across the Network.

## **2.0 Definition**

Oesophageal atresia is a congenital abnormality in which there is a blind ending oesophagus. This may be associated with a fistula between the abnormal oesophagus and the trachea.

## **3.0 Presentation and Antenatal Care**

The vast majority of cases will present following birth, although there may be some suspicions antenatally in babies with polyhydramnios.

Occasionally there will be strong evidence of oesophageal atresia on ante-natal scans such as an absent stomach bubble. Mother's carrying such a baby should be referred to a Fetal Medicine Department for further assessment. For most cases within SWMNN this will be at Birmingham Women's Hospital. If strong suspicions persist, then delivery should be planned at a level 3 Neonatal unit. Antenatal care for these women should include a discussion between the Parents and a Paediatric Surgeon

## **4.0 Management on Delivery Suite – when the diagnosis is strongly suspected antenatally**

- 4.1 Initiate ABC resuscitation as required.
- 4.2 Administer oxygen if indicated.
- 4.3 Mask ventilation should be avoided if at all possible as it predisposes to gastric or oesophageal pouch distension which may lead to respiratory compromise and/or aspiration through a fistula.
- 4.4 If the neonate is breathing spontaneously with good oxygenation, intubation is positively contraindicated.
- 4.5 If endotracheal intubation is indicated for respiratory distress, an attempt should be made to position the tip of the endotracheal tube as close to the carina as possible in order to minimise gas flow through a fistula. Ventilatory pressures should be as low as can be afforded.

## **6.0 Post-Natal Presentations**

Most cases will present in the hours or days following birth.

Oesophageal Atresia should be suspected if one or more of the following are present:

- History of polyhydramnios +/- absent stomach bubble
- Frothing at the mouth
- Respiratory symptoms on feeding
- Difficulties in passing a nasogastric tube
- Imperforate anus

## **7.0 Confirming the Diagnosis**

- 7.1 When oesophageal atresia is suspected, placement of a radio-opaque 8Fr nasogastric tube (NGT) should be attempted by an individual experienced at this technique. Characteristically, there is resistance felt at approximately 10–12cm from the nostrils in a term infant. **It is important not to use any force as this may lead to perforation of the oesophagus.**
- 7.2 Obtain a plain antero-posterior radiograph incorporating the whole of the chest and abdomen
- Oesophageal atresia is diagnosed if the NG tube is curled up in the upper oesophagus.
  - A gastric air bubble confirms the presence of a fistula between the trachea and the distal oesophagus.
- 7.3 A contrast oesophagogram should not be attempted.

## **8.0 Management on the Neonatal Unit after diagnosis**

Nurse the child in a head up position by tilting the cot, with the head turned to one side to facilitate drainage of secretions.

- 8.1 A 10Fr Replogle tube should be passed, ideally nasally, into the upper oesophageal pouch (usually 10-12 cm level with the nostrils in a term infant).
- The replogle tube should be secured with duoderm and elastoplast on both sides of the face (See photo, over) Mittens should be placed on the baby's hands to prevent the replogle tube from being pulled out.



- The tube should be connected to low level suction with the pressure set at 5Kpa and increased as required to ensure continuous flow of secretions from the upper oesophagus (*up to a maximum of 10Kpa*). Patency of the replogle tube should be checked every 15 minutes and the tube should be flushed via the blue side arm with 0.5ml saline if there is no movement of secretions.
- The blue side arm should never be occluded (e.g. by leaving a syringe attached.)

8.2 IV access should be obtained. Blood should be obtained for:

- Blood Culture
- FBC
- Urea & Electrolytes
- Clotting Studies
- Blood Glucose

**Do not obtain a sample for X-match from the baby – done on surgical unit.**

8.3 Commence routine maintenance IV fluids.

8.4 Ensure Vitamin K is given according to local policy. It must be given intramuscularly.

8.5 Start broad spectrum antibiotics.

8.6 Carefully examine the baby for any associated abnormalities (e.g. heart murmur & ano-rectal malformations). If it appears that the baby has a major congenital abnormality the baby must be seen by the local consultant to decide whether referral for management of the oesophageal atresia is appropriate. This may need discussion with the on-call consultant surgeon.

8.7 Inform the Surgical SpR at Birmingham Children's Hospital, that baby has been diagnosed with oesophageal atresia. Have available: name, gestational age, weight, ventilatory and oxygen requirements, and mother's name and ward where mother is admitted.

8.8 If no bed is available in Birmingham, consider discussing with one of the surrounding units eg Leicester & Nottingham.

8.9 Once a bed is secured contact the transport team to arrange transfer

8.10 Take photographs for parents

- 8.11 Obtain a sample of mother's blood for cross-match. The form should be **handwritten** and all relevant sections fully completed. Indicate on the form that this is the mother of the baby being transferred and include the name of the baby. This information is required by the BCH Blood Bank.
- 8.12 Complete nursing and medical documentation for transfer and copies of any X-rays. **Ensure you have details of MOTHER'S NAME, WARD (including direct line telephone number) OR if mother is discharged HER MOBILE and / or CONTACT TELEPHONE NUMBER.** The surgeon will need to obtain verbal telephone consent if operation is required and a parent is not able to attend the Birmingham Children's Hospital while awaiting transfer to surgical unit.

## **9.0 Transfer**

- 9.1 The patient should be transferred as soon as possible and be accompanied by a suitably trained member of staff who is capable of managing the child's airway in case of respiratory distress.
- 9.2 Take the mother's blood, copies of all X-rays and the letters for the surgical team with you. Ensure this includes : whether vitamin K has been given, the referring Consultant, whether the parents had antenatal counselling, mother's name, the ward she is on and her contact details.
- 9.3 If the parents have not yet seen their baby, take the infant to them in the transport incubator, en-route to the ambulance.
- 9.4 Make and document all the usual observations during transport and upon arrival at the surgical unit.

## **10.0 Useful Information** – click for internet links

- [Information about The Neonatal Surgery Unit at Birmingham Children's](#)
- [How to get to Birmingham Children's Hospital](#)
- [Family Support and Information \(tofs – the oesophageal atresia/fistula website\)](#)

## **11.0 Further Reading**

1. Long gap oesophageal atresia: a nursing prospective. Hawley AD, BNI 2001;5(4):1915
2. Oesophageal atresia. Johnson P. Infant 2005;1(5):163-7
3. Guidelines for use of repleg tubes. Rosemary Marshall NSPG Sept 2004 (Birmingham Women's Hospital)