Surgery for TOF/OA

Content provided by Professor L Spitz PhD FRCS, Nuffield Professor of Paediatric Surgery, Institute of Child Health (University College London) and Great Ormond Street Hospital for Sick Children, London.

How soon after birth is surgery required?

Emergency surgery for the infant with oesophageal atresia is not necessary.

The operation can be safely postponed until the daylight hours rather than having to be carried out at a time when the surgeon may not be at his or her best and when staffing is at emergency levels. However, the lack of availability of a regular operating theatre may dictate that the surgery has to be undertaken at night rather than waiting until the following morning.

The only exception to this rule is the infant who has respiratory difficulties, particularly the premature infant with respiratory distress syndrome. Such babies often require mechanical ventilation and in the presence of a distal tracheo-oesophageal fistula, the pressures necessary to keep the stiff lungs inflated may cause some of the air to escape down the fistula into the stomach. The stomach becomes distended, worsening the respiratory status, and the stomach may even rupture, resulting in a life-threatening situation.

In this case, an emergency operation will be needed to close off the fistula. If the infant's condition improves dramatically, the surgeon may continue with the procedure, but usually the operation is left at this stage and the repair postponed for a few days until the infant is in a stable condition.

Another circumstance which may delay surgery or dictate a different approach is where the infant has a major congenital heart abnormality. Detailed investigations of the heart will be required and medical treatment for cardiac failure instituted. Occasionally cardiac surgery may be advisable before correction of the oesophageal atresia.

Primary anastomosis

The aim of surgery for oesophageal atresia is to divide the tracheo-oesophageal fistula and to perform a 'primary anastomosis,' joining the two ends of the oesophagus during the initial operation.

Occasionally, primary anastomosis will not be possible at the first operation because the gap between the two ends of the oesophagus is too wide.

What are the baby's chances?

Nowadays it is very rare for an otherwise healthy baby to die from TOF or OA. If the infant's birthweight is greater than 1500 grams and there is no evidence of a major congenital heart anomaly, the chances of survival are close to 100%.

If the baby weighs less than 1500 grams at birth or has a major congenital heart anomaly, the chances of survival are reduced to 60%.

If the baby's weight is below 1500 grams and there is a major heart anomaly, the chances of survival are much further reduced, to around 20-30%.

The operation

Following assessment and stabilisation, the infant can be prepared for surgery.

Consent for the procedure is obtained and the risks of the operation and the chances of the baby's survival are carefully explained to the parents.

The baby is then taken to the operating theatre where anaesthesia is induced by an experienced paediatric anaesthetist.

INCISION

The usual incision is along a curved line on the right side of the chest close to the back to just under the tip of the shoulder blade. It should not extend close to the nipple.

This information has been written for the parents of TOF children by TOFS (Tracheo-Oesophageal Fistula Support) – helping children born unable to swallow.

If you have any feedback on this leaflet, please use our leaflets feedback form which is available from either the TOFS office our web site.

TOFS relies on money from membership fees, voluntary donations and other sources of charitable income to fund its activities.

Web site
www.tofs.org.uk
Address
TOFS,
St George's Centre,
91 Victoria Road,
Netherfield,
Nottingham NG4 2NN
Telephone
0115 961 3092
Fax
0115 961 3097
Email
info@tofs.org.uk

TOFS does not offer specific medical advice to parents. We work only in a supportive role, offering emotional and practical support to meet the needs of parents and providing a source of information which complements that given by the specialist hospital.

Registered Charity number
327735

Company number
2202260

"My first reaction was horror and panic. When Nicholas' physical internal problems were explained to me I did not expect him to survive. I was amazed at what was surgically done for his repair and that it was successful."

Related leaflets from TOFS which you might like to read:

1. What is TOF/OA?
2. The news that your baby is a TOF
3. The TOF child after surgery
4. Your child in hospital
5. Going home from hospital
6. Feeding the TOF Child
7. Long-gap OA - delayed anastomosis
8. Long-gap OA - oesophageal substitution
9. TOF: long term follow up

These are all available from the TOFS web site (www.tofs.org.uk) or from TOFS office.

You can loan a video of the TOF operation – "Your Life in Their Hands" – from TOFS office.

TOFS also publishes a book 'The TOF Child' which is suitable for both parents and medical professionals. Details are available from TOFS.

PROCEDURE

The chest is entered between the fourth and fifth ribs and, without opening the membrane which encloses the lung, the area of the oesophageal atresia is approached. The fistula is carefully identified and traced towards its entry into the trachea, where it is divided and the defect in the trachea closed with fine interrupted sutures.

The proximal (upper) oesophagus is now identified with the help of the anaesthetist applying pressure on the tube in the upper oesophageal pouch. The upper pouch is mobilised sufficiently to allow anastomosis (joining) to take place with the least possible tension. If there is significant tension at the anastomosis, the infant may be electively paralysed and mechanically ventilated (i.e. put on a 'life-support machine') to reduce the likelihood of a leak in the anastomosis.

The anastomosis is performed using fine interrupted sutures which should provide a watertight seal.

TRANSANASTOMOTIC TUBE

Most surgeons will pass a trans-anastomotic tube (trans = across; anastomosis = join) from the nose through the oesophagus into the stomach to remove any pressure in the stomach during the first few days after the operation, and to allow feeding to occur on the third or fourth postoperative day.

CHEST DRAIN

Some surgeons leave a chest drain in position for up to one week, others have omitted this as it does not appear to be of any great value in detecting an anastomotic leak (a defect in the join that allows oesophageal contents to leak into the surrounding tissues).

CLOSURE

The wound is closed in layers, finishing with a stich which is buried in the skin, underneath the surface. This type of stitch does not require removal.