

Gastro-oesophageal reflux

*Content provided by Mark D Stringer MS FRCS FRCP,
Consultant Paediatric Surgeon, Leeds.*

What is reflux?

In gastro-oesophageal reflux (GOR), as the stomach empties into the bowel (the duodenum), part of its contents are also squeezed back into the oesophagus. Since the stomach contents are acidic, irritating acid passes into the oesophagus.

The lower oesophagus has features that normally prevent GOR causing problems. These are not strongly developed in babies, which explains their tendency to vomit; this reduces during the first months or years as the antireflux mechanisms get stronger.

In TOF babies, GOR is even more common. This is partly because the oesophagus has not developed normally and partly because repair of the OA often pulls the junction between the oesophagus and stomach upwards, weakening the antireflux mechanisms. TOF babies therefore vomit more easily than normal babies.

GOR is more likely to be a problem if there was a wide gap between the oesophageal ends and the join was tight.

Symptoms of reflux

Because all healthy babies have a tendency to GOR, the issue is whether GOR is causing a problem in your baby – rather than whether GOR is occurring at all.

Reflux causes frequent vomiting after feeds. This is not the small mouthfuls of vomit ('possets') seen in all babies, but the vomiting of large amounts of the feed. This can happen straight after a feed or right up until the next feed. If GOR is severe, the baby may have difficulty gaining weight.

The oesophagus may become sore from the acid (the adult equivalent of which is heartburn) leading to irritability and poor feeding. In some cases, bleeding from the oesophagus causes anaemia or signs of blood in the vomit (haematemesis). Strictures can also be made worse.

Rarely, reflux can happen so quickly that it leads to the baby inhaling vomit, leading to a chest infection or difficulty with breathing. In severe cases, the baby may temporarily stop breathing (called 'apnoea').

Most TOF babies have mild reflux, which gets better either by itself or with medicines, but a few have severe reflux which needs treatment.

Diagnosis of reflux

Listening to the history often gives the doctor clues as to whether GOR is causing problems. It can however be difficult to tell whether a TOF baby's feeding problems are due to GOR, a stricture or another problem.

RADIOGRAPHY

In this method the child swallows some dye (barium contrast material) in the radiography department. If the child has GOR, as the stomach contracts to empty, the dye is also seen travelling up the oesophagus. The severity of reflux can be assessed by how much dye passes upwards and whether it just enters the lower oesophagus or passes right up to the throat.

PH STUDY

This involves passing a fine tube through your child's nose down into the lower oesophagus. A radiograph is sometimes needed to check the position of the tube.

The tip of the tube has a sensor which measures the acidity (or pH) and records it on a small computer. The pH study usually runs for 24 hours, during which the child can eat and drink and live a fairly normal life within the constraints of the equipment (as carried by the boy shown here).

Any antireflux medicines must be stopped before the test to avoid a false reading.

Normal children have a little acid in the lower oesophagus for brief periods only (less than 5-10% of the time) but children with significant GOR have acid present for much longer.

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 or 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

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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.

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Related leaflets from TOFS which you might like to read:

1. Strictures
2. The Nissen fundoplication
3. Feeding the TOF child
4. Your child in hospital
5. TOF and the primary care team (for GPs and clinic staff)
6. TOF: long term follow up

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

ENDOSCOPY

Persistent gastro-oesophageal reflux causes the lining of the lower oesophagus to be inflamed (oesophagitis) and this can be seen by endoscopy (oesophagoscopy).

MILK SCANS

This technique is also known as gastro-oesophageal scintigraphy and involves the baby taking a small amount of radioactive material by mouth, followed by a milk feed; the baby is then scanned by a special camera. The test does not require sedation and the radiation dose is less than that involved with radiography. Radioactivity in the oesophagus indicates GOR but there is none of the detail seen with a barium swallow.

Treatment of reflux

This depends on the severity of the reflux and how much trouble it is causing.

Mild GOR, which is probably present in all TOF infants (and many otherwise healthy babies), tends to improve spontaneously with age and often gets a little better when the baby is able to wean on to more solid food. Simple measures that are helpful include changing the position of your child (posturing) and, in babies, thickening the milk.

POSTURING

GOR tends to be worse when lying flat and therefore a gentle raise of the head of baby's cot can be useful. This can be done by putting a pillow or folded blanket **under** the mattress to create a gentle head-up slope. Never attempt to let your baby sleep directly on a pillow which could be dangerous. During the day, keeping your baby propped up in a chair (but not slumped over) can help prevent reflux. Changing the nappy before feeds makes vomiting less likely than doing so when his/her tummy is full.

MILK FEED THICKENERS

There are many types of milk thickeners:

Carobel, Nestargel - add just before a feed; thickens it instantly.

Thixo-D, Thick and Easy - can be added just before a feed or mixed in advance when feeds are prepared and stored.

Gaviscon - powder which can be added to infant formulas.

Feeding your baby with slightly smaller volumes of milk given at more frequent intervals may also be helpful.

ANTIREFLUX MEDICINES

In general, antireflux medicines either reduce the severity of the reflux by improving the downward movement (i.e. motility) of the oesophagus and stomach, or by reducing acidity so that the reflux is less damaging to the oesophageal lining.

These are some commonly used drugs:

Motility drugs - cisapride (Prepulsid®) and domperidone (Motilium®) strengthen the antireflux mechanisms and speed up stomach emptying.

Acid lowering drugs - cimetidine (Tagamet®) and ranitidine (Zantac®) are the drugs most frequently used to lower the stomach's acidity. Omeprazole (Losec®) is a more powerful acid-lowering drug.

Gaviscon contains antacids and tends to float on top of the feed, thickening it.

Any medicine can have side effects but these are not known to be common with these drugs. Any unusual reaction to a medicine should always be reported to your doctor and the drug should be stopped, at least temporarily.

Occasionally, a child may get diarrhoea with cisapride, develop unusual movements or a rash - in which case, stop the medicine and seek medical advice.

Medication often has to be continued for many months. It can be gradually removed when the reflux has improved.

In some children, reflux is persistent but mild, causing occasional heartburn or discomfort but never severe enough to need surgery. In these patients, antireflux medicines need to be used occasionally or only when they have symptoms.

Sometimes children do not get better with the medicines or have major problems such as repeated stricturing, chest infections from overspill of refluxed material into the lungs, persistent severe oesophagitis or inadequate weight gain. In these children antireflux surgery has to be considered, most commonly the Nissen fundoplication procedure.

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