

# Parental agreement to investigation or treatment

## Impedance study

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**Brief description:**

- Your child is going to be having an impedance study. This information leaflet will provide you with the information you need about this procedure.
- Here, we explain some of the aims, benefits, risks and alternatives to this procedure. We want you to be informed about your choices to help you to be fully involved in making any decisions.
- Please ask about anything you do not fully understand or wish to have explained in more detail.
- If you would like this information in another format or language or would like help completing the form, please ask a member of our staff.

**Please bring this form with you to hospital**

- You will be asked to read this form carefully, and you and your doctor (or other appropriate healthcare professional) will sign it to document your consent.
- All our consent forms are available on the Addenbrooke’s website:  
<http://www.addenbrookes.org.uk/consent>
- Guidance for health professionals can be found on the Addenbrooke’s intranet site  
<http://nww.addenbrookes.nhs.uk/consent>
- Remember, you can change your mind about having the procedure at any time even after you have signed the form.

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**For staff use:**

Does the patient have any special requirements? (For example, requires an interpreter or other additional communication method)

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## What is an impedance study?

This test measures the movement of all liquid and air up and down the oesophagus (the food pipe - the tube that takes food from your mouth to your stomach). Gastro-oesophageal reflux (GOR) is when stomach content (acid or non-acid) comes back up from the stomach into your oesophagus. The impedance study provides information on what is actually happening in the oesophagus over 24 hours. It measures all reflux events, whether they are acid or non-acid, liquid or air, or liquid and air combined. It also measures how high the liquid refluxes, for example, into the lower, middle or upper part of the oesophagus. These events are measured using an impedance probe.

## Preparation – what to do with medication?

**Before booking the study** your doctor or specialist nurse will discuss with you whether or not you need to stop any of your child's treatment.

Occasionally the doctor caring for your child may request that you do not stop their medication; they will explain to you why this is important.

If your child needs to stop treatment, then please see the list below for when these should be stopped.

Proton pump inhibitors should be stopped seven days before to test, these include:

- Omeprazole (Losec)
- Lansoprazole (Zoton)
- Esomeprazole (Nexium)

Acid suppressants should be stopped for 72 hours (three days) before to the test.

These include:

- Ranitidine (Zantac)
- Cimetidine (Dyspamet, Tagamet)

Antacids/Alginates should be stopped for 24 hours before to test. These include:

- Gaviscon
- Gastrocote
- Peptac
- Rennies
- Maalox
- Mucogel
- Prokinetic (motility agents)
- Domperidone (Motilium)

## Before to the test

You will receive information regarding the date, time and department where your child will have the test performed.

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**Your child should not eat or drink for two hours before this appointment to reduce the chance of them being sick at the time of probe insertion.**

### **How is the probe inserted?**

Before inserting the probe, the specialist nurse will talk your child through the procedure. The specialist nurse will then pass the tip of very thin flexible plastic tube (called a probe) into your child's nose and down the back of their throat into the lower oesophagus. This is a little uncomfortable and may make your child sneeze, cough or retch. It may tickle the back of their throat for a while once inserted. The probe is held in place with tape attached to your child's cheek and is also secured with tape on the back/chest. The other end of the probe is attached to the recording box, which is the size of a Nintendo DS and held in a small bag. The box will record the severity of acid reflux (ph) and any reflux (impedance) events over 24 hours. The data is later transferred onto a computer for analysis. The test will then be analysed by your child's medical team and appropriate changes made to their treatment plan.

### **Is the probe in the correct position?**

An X-ray will need to be performed to ensure the probe is in the correct place. If necessary the probe can be pushed in slightly or pulled back to the required position. A further X-ray is not needed.

### **Will my child need to stay in hospital?**

In most cases it is possible for your child to go home overnight and return to the ward the following day for the probe to be removed. This will be discussed with you by your child's team. If your child remains in hospital overnight they will be nursed on a children's ward.

### **How will the probe stay in?**

The probe will be secured to your child's nose/cheek and back or chest with tape to avoid accidental removal. You will be shown how to re-secure the probe if the tape becomes loose.

### **What happens if the probe falls out?**

This is very uncommon. If the probe does fall out, **don't worry!** If you are in hospital tell one of the nursing staff immediately and they can contact the nurse specialist as appropriate. If you are at home and the probe falls out, simply remove it by pulling it out of the nose gently. If it comes out slightly, you can try and return it to its original position. If this is not easily done, either fix the tube in the new position and record the event in the diary you will be given, or simply remove the tube and return to the ward the next day as planned.

### **What should I do if my child cannot tolerate the presence of the probe?**

This is very rare, but children who cannot tolerate the probe are usually identified at the time of insertion. If you find that your child really cannot tolerate the probe when

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you get home, and that simple pain killers (for example paracetamol) does not help, you can remove the probe yourself by simply removing the tape and pulling out the probe. Return the recorder and probe to the hospital as planned the next day and explain what happened to your nurse specialist.

### **Will my child feel the probe?**

Your child will be aware of the probe in the back of their throat throughout the test but most children/young people report they become less aware of it over the 24 hour period.

### **Will my child be able to eat and drink as normal?**

We want your child to continue eating and drinking as normal, as we need to see what happens during a normal day. However we ask that your child does not have any carbonated / fizzy drinks or fruit juices during the study as these can interfere with the interpretation of reflux events. The probe may move very slightly as your child eats, and this may feel strange initially. This is perfectly normal.

### **Are there any restrictions to my child's activities?**

Your child should not have a bath or shower for the duration of the study to prevent any accidental damage to the recorder by water.

Boisterous play / activity is best avoided to prevent accidental removal of the probe and damage to the recorder.

### **What is the diary for?**

You will be provided with a diary to record your child's symptoms, body position and meals. The diary is extremely important as it allows us to correlate your child's symptoms with the recorded reflux events. You (and your child if they are old enough) must complete the diary carefully and will be shown how to do this before the study. You may also be asked to press certain 'symptom' buttons on the recorder so that the computer can analyse whether or not the 'symptom' occurs as a result of a reflux event. If the diary (or button) is not used correctly it may not be possible to analyse the study and diagnose your child's problem. Further explanation will be given on the day.

### **How will my child sleep?**

Your child will be able to sleep as normal. Place the recorder/ box under your child's pillow to avoid accidental removal. If your child's sleep is disturbed overnight please record it in the diary and press the appropriate buttons as advised.

### **Can the equipment be damaged?**

Yes. The equipment is very fragile and expensive. We therefore ask you and your child to take great care of it. The recorder should be handled carefully and kept in its case to avoid any accidental damage. If the equipment is damaged we will not be able to analyse the information of the test and the test may need to be repeated.

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## What happens when the monitoring is complete?

The appointment to remove the probe will take 10 to 15 minutes. Once the tape is removed the probe slips out of the nose very easily. This only takes a few seconds and may feel odd, but it should not be painful. Each probe is only ever used once and then discarded. The diary sheet will then be reviewed with you and your child to ensure that we have all the relevant information.

Once the probe is out your child can go home. Any anti-reflux medication can be restarted if this was advised by your doctor before the study.

## When do I find out the results?

The information on the Impedance recorder is downloaded onto a computer and the results are analysed by the doctor or specialist nurse from your child's team. This can take up to a week and you will either receive a telephone call or be seen in clinic to discuss the results.

A letter confirming the findings of the procedure and management plan will be given to you, and sent to your child's GP, your referring consultant and any other health care professionals involved in your child's care. If you **do not** wish for anyone involved in your child's care to receive this information, please let one of the team know.

## What are the benefits of the procedure?

Your doctor should have discussed the likely benefits of this procedure with you and your child. If you are not sure how the procedure is likely to benefit your child's health, please ask one of the medical team who will be happy to explain this to you. In most cases the procedure is done to try and help make a diagnosis i.e. to work out the cause of your child's symptoms and therefore allow better treatment for your child.

## Alternatives

Some units measure pH reflux alone with a 'pH-study'. An impedance study is a better study of the function of the oesophagus and cannot be replaced by any other type of scan/X-ray or blood test. Sometimes it is appropriate to treat a patient without doing an impedance study, but this should be discussed with you before booking this investigation.

## Are there any risks?

There may be a little bleeding from the nose if your child has a history of nosebleeds, or the tube was difficult to insert.

There is also a small risk of the probe going into a lung rather than the oesophagus. This is very uncommon and not dangerous. Misplacing the probe is very unlikely as passing the probe into the lungs will usually make your child continue to cough and feel uncomfortable. The correct position will be checked by X-ray before he or she is allowed to eat, drink or leave the hospital.

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**If you are concerned, or your child has any of the symptoms below:**

- Severe pain
- Fever – temperature higher than 38.5° C for more than two hours

**Please contact the one of the following:**

- 8am until 4pm: Gastroenterology nurse: 01223 274757
- 4pm until 8am: Your GP or local Accident and Emergency Department or;
- Addenbrooke's Hospital: 01223 245151 (where you should ask to speak to the on-call paediatric registrar.)

**Any other questions?**

Feel free to write down any other questions you may have. No question is ever too minor or too silly to ask, so please ask any member of the team caring for you if there is anything you wish to know. Your child is also encouraged to ask questions. It is important that you and your child are fully prepared for the procedure and that we try and address all of your worries and concerns before the procedure.

**If you have any problem understanding or reading any of this information, please contact any of the team below or ask your consultant for more details.**

- Mary Brennan, Clinical Nurse Specialist in Paediatric Gastroenterology: 01223 274757
- Lesley Dark/Helen Shelley, Gastroenterology Nurses: 01223 384950

**Children's anaesthesia**

Children may need anaesthetics for operations, just like adults. They may feel distressed and their parents can feel anxious. Anaesthetists generally recognise this, and do their best to keep distress down to a minimum. These days, children usually come into hospital on the same day as the operation, unless it is major, and usually do not have premeds. They are seen with their parents by their anaesthetist and usually have local anaesthetic cream put on their hands at this point as described previously.

When they come into the anaesthetic room, it is usual for one of their parents to be encouraged to come in with them, in case they get scared. Many anaesthetists start the anaesthetic with an injection into a vein, and with the local anaesthetic cream this usually does not hurt, or not very much. Others prefer to use gas as an anaesthetic, and most will use gas if there is a particular fear of needles.

Sometimes, especially for emergencies, gas cannot be used, as there may be a risk of vomiting. Occasionally, the anaesthetist will ask parents to leave the anaesthetic room just before starting anaesthesia, as some procedures need to be done just as the anaesthetic starts. After the operation parents can usually come back to their child as they are beginning to wake, so that they do not feel left alone.

Usually pain can be controlled by use of local anaesthesia to wounds, followed by paracetamol syrup or something similar. For more major surgery other pain relief methods will be required. Discuss this with your anaesthetist at the pre-operative assessment.

## **What are the risks of general anaesthesia?**

In modern anaesthesia, serious problems are uncommon.

Risk cannot be removed completely, but modern equipment, training and drugs have made it a much safer procedure in recent years.

Most children recover quickly and are soon back to normal after their operation and anaesthetic. Some children may suffer side effects like sickness or a sore throat. These usually last only a short time and there are medicines available to treat them if necessary.

The exact likelihood of complications depends on your child's medical condition and on the nature of the surgery and anaesthesia your child needs. The anaesthetist can discuss this with you in detail at the pre-operative visit.

For a child in good health having minor surgery:

- 1 child in 10 (like one person in a large family) might experience a headache, sore throat, sickness or dizziness.
- 1 child in 100 (like one person in a street) might be mildly allergic to one of the drugs that has been given.
- 1 child in 20,000 (like one person in a small town) might develop a serious reaction (allergy) to the anaesthetic.



Addenbrooke's is smoke-free. You cannot smoke on site. For advice on quitting, contact your GP or the NHS smoking helpline free, 0800 169 0 169

Please ask if you require this information in other languages, large print or audio format: 01223 216032 or [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

Informacje te można otrzymać w innych językach, w wersji dużym drukiem lub audio. Zamówienia prosimy składać pod numerem: 01223 216032 lub wysyłając e-mail: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

#### Polish

Se precisar desta informação num outro idioma, em impressão de letras grandes ou formato áudio por favor telefone para o 01223 216032 ou envie uma mensagem para: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

#### Portuguese

Если вам требуется эта информация на другом языке, крупным шрифтом или в аудиоформате, пожалуйста, обращайтесь по телефону 01223 216032 или на вебсайт [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

#### Russian

若你需要此信息的其他語言版本、大字體版或音頻格式，請致電 01223 216032 或發郵件到: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

#### Cantonese

Bu bilgiyi diger dillerde veya büyük baskılı ya da sesli formatta isterseniz lütfen su numaradan kontak kurun: 01223 216032 veya asagidaki adrese e-posta gönderin: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

#### Turkish

এই তথ্য বাংলায়, বড় অক্ষরে বা অডিও টেপে পেতে চাইলে দয়া করে 01223 216032 নম্বরে ফোন করুন বা [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk) ঠিকানায় ই-মেইল করুন।

#### Bengali

**This information is awaiting approval from the Advisory Group for Patient Information (AGPI).**

#### Document history

Authors	Paediatric Gastroenterology Team
Department	Box 267, Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ <a href="http://www.addenbrookes.org.uk">www.addenbrookes.org.uk</a>
Contact number	01223 384950
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Supersedes?	Version 1, December 2008
Ref	CF402

Consent Form 2  
 Parental agreement to  
 investigation or treatment

<b>For staff use only:</b> Surname: First names: Date of birth: Hospital no: Male/Female: (Use hospital identification label)
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Responsible health professional/job title  
 .....

Special requirements .....  
 (For example other language/other communication method)

**Name of proposed procedure or course of treatment**

**Impedance study**

**Statement of health professional**

(To be filled in by a health professional with an **appropriate knowledge of the proposed procedure**, as specified in the Hospital's consent policy)

I have explained the procedure to the child and his or her parent(s). In particular, I have explained:

- The intended benefits of the procedure: to try and help make a diagnosis i.e. to work out the cause of your child's symptoms and therefore allow better treatment for your child.  
 Other (please specify).....  
 .....

- Any serious or frequently occurring risks from the procedures including those specific to the patient: There may be a little bleeding from the nose if your child has a history of nosebleeds, or the tube was difficult to insert. There is also a small risk of the probe going into a lung rather than the oesophagus. This is very uncommon and not dangerous. Misplacing the probe is very unlikely as passing the probe into the lungs will usually make your child continue to cough and feel uncomfortable. The correct position will be checked by X-ray before he or she is allowed to eat, drink or leave the hospital. Other (please specify) .....  
 .....

- Any extra procedures that might become necessary during the procedure

Blood transfusion    Other procedure (please specify) .....

I have discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient and his or her parents.

- The following information leaflet has been provided: Impedance study. Version/Date/Ref: V2/December 2008/CF402

This procedure will involve:

General and/or regional anaesthesia    Local anaesthesia    Sedation

**Health professional's signature** .....   **Date:** .....

Name (PRINT): .....   Job title: .....

Contact details (if child/parent wish to discuss options later) .....

I have offered the parent information about the procedure but s/he has declined information.

**Statement of the interpreter (if appropriate)**

I have interpreted the information above to the child and his or her parents to the best of my ability, and in a way in which I believe they can understand:

Interpreter's signature: .....   Date: .....

Name (PRINT): .....

**Important notes: (tick if applicable)**

- Parent has withdrawn consent (ask parent to sign/date here) .....
- See also advance directive/living will

<b>For staff use only:</b>
<b>Surname:</b>
<b>First names:</b>
<b>Date of birth:</b>
<b>Hospital no:</b>
<b>Male/Female:</b>
<b>(Use hospital identification label)</b>

**Statement of parent**

Please read this form carefully. If your treatment has been planned in advance, you should already have your own copy, which describes the benefits and risks of the proposed treatment. If not, you will be offered a copy now. Do ask if you have any further questions. The staff at Addenbrooke's are here to help you and your child. **You have the right to change your mind at any time before the procedure is undertaken, including after you have signed this form.**

Training doctors and other health professionals is essential to the continuation of the Health Service and improving the quality of care. Your child's treatment may provide an important opportunity for such training, where necessary under the careful supervision of a senior doctor. You may, however, decline your child's involvement in the formal training of medical and other students without this adversely affecting your care and treatment.

**Please read the following:**

**I understand** that my child and I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of the situation prevents this. (This only applies to children having general or regional anaesthesia.)

**I understand** that you cannot give me a guarantee that a particular person will perform the procedure. The person undertaking the procedure will, however, have appropriate experience.

**I understand** that any procedure in addition to those described on this form will only be carried out if it is necessary to save my child's life or to prevent serious harm to his/her health.

**I have been told** about additional procedures which may become necessary during my child's treatment. I have listed below any procedures that **I do not wish, without further discussion, to be carried out.**

**I understand** that any tissue (including blood) removed as part of the procedure or treatment will be anonymised and may be used for teaching or quality control, and stored or disposed of in a manner regulated by appropriate, ethical, legal and professional standards.

**I understand** that all research will be approved by a research ethics committee and undertaken in accordance with appropriate ethical, legal and professional standards.

**I understand** that the research may be conducted within a hospital, university, not for profit organisation or a company laboratory.

**Please tick boxes to indicate you either agree/disagree to the three points below.** Yes No

**I agree** that tissue (including blood) not needed for my child's diagnosis or treatment can be used for **research which may include genetic research.** If you wish to withdraw your consent for the use of your tissue (including blood) for research, please contact the Patient Advice and Liaison Service at Addenbrooke's Hospital.

**I agree** to the use of photography for the purpose of diagnosis and treatment.

**I agree** to anonymised photographs being used for medical teaching.

**I confirm** that the risks, benefits and alternatives of this procedure have been discussed with me and my child and I have read and understood the above and agree to the procedure (or course of treatment) on this form.

**Parent's signature:** ..... **Date:** .....

**Name (PRINT):** .....

**Child's agreement to treatment (if child wishes to sign)**

I agree to have the treatment I have been told about.

Signature: Date: .....

Name (PRINT): .....

**Confirmation of consent** (to be completed by a health professional when the child is admitted for the procedure, if the parent/child have signed the form in advance)

On behalf of the team treating the patient, I have confirmed with the child and his/her parent(s) that they have no further questions and wish the procedure to go ahead.

Signature: Date: .....

Name (PRINT): ..... Job Title: .....

Copy accepted by patient/parent: yes / no (please circle)