



**The Leeds  
Teaching Hospitals**  
NHS Trust

Endoscopy Unit

# Endoscopic Mucosal Resection (EMR) of the bowel

Information for  
patients

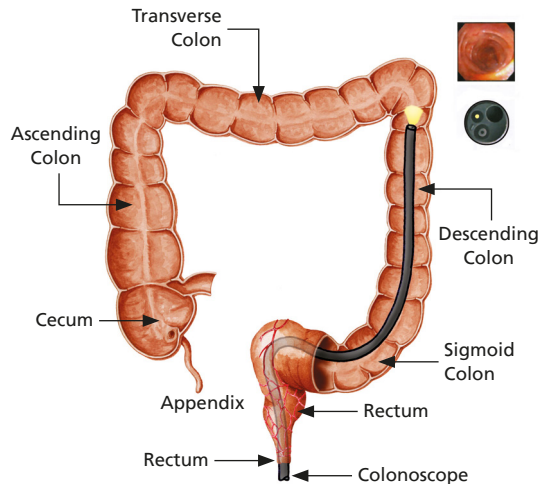


Your doctor has recommended that you have an **Endoscopic Mucosal Resection (EMR)** of your bowel. This leaflet will explain the procedure and what to expect on the day of your procedure. If you have further questions, please telephone the department or discuss them with a member of staff on the day of your procedure.

### What is an Endoscopic Mucosal Resection (EMR) of the bowel?

EMR is a procedure where a lesion or polyp is removed from your bowel.

The procedure will be carried out using a colonoscope (flexible camera) that will be passed around the bowel to access the area of irregularity. When the lesion or polyp has been located, it is raised by injecting fluid into the tissue underneath the lesion. The injection increases the thickness of the bowel wall, making it easier and safer to remove the lesion. The lesion is then removed using diathermy (heat treatment), which allows the lesion, along with some of the tissue underneath to be cut and removed. You will not feel this.



## **Why am I having an EMR of the bowel?**

Your previous endoscopy or test has found a lesion or polyp in your bowel. In most cases, biopsies (small samples of tissue) have already been taken and sent to the laboratory for analysis. Sometimes, these samples are too small for the laboratory to make a diagnosis and a larger sample is required for a more precise diagnosis. Alternatively, the previous biopsies have indicated that the lesion requires removal.

All tissue samples have to be sent away to the laboratory so the results will not be available straight away. You will be able to discuss the results of your EMR with the doctor who referred you.

## **What are the benefits to having an EMR of the bowel?**

The main benefit of this procedure is that the lesion can be removed without the need for a major operation. In the majority of cases, the EMR is performed as a day case procedure, which means you are discharged after a few hours of observation following the procedure. Time taken to recover and discomfort after the procedure is far less when compared with surgery.

## **What are the Alternatives to having an EMR of the bowel?**

Alternative treatments may already have been discussed with you. These include, removing the lesion surgically, by "keyhole" or "open" surgery, which means an operation.

This is generally associated with a longer recovery and may carry greater risks. Alternatively, you may opt not to have the lesion or polyp removed and instead keep it under close review; however, this decision must be carefully considered after discussion with your consultant.

## Will I need to stay in hospital after my EMR?

The procedure is usually undertaken as a day case but sometimes, the doctor will make the decision that you need to stay in hospital after your EMR for further observation.

Your appointment letter will inform you if you have to stay in hospital. If you do, you should arrange for someone to collect you from the ward the following day.

## What are the risks of having an EMR of the bowel?

The most common side effect following an EMR is abdominal discomfort and / or a rare reaction to the drugs used for sedation or anaesthesia.

Two more serious risks are bleeding during, or after the EMR and perforation (tear) of the bowel wall. This usually occurs during the procedure and is dependent on the size and location of the lesion or polyp being removed.

**Bleeding:** This is usually minimal unless you take medication to stop blood clots from forming. Examples of such medications include: Aspirin, Clopidogrel (Plavix), Dabigatran, Edoxaban, Ticagrelor, Dipyridamole (Persantin), Warfarin, Heparin, Rivaroxiban (Xarelto) or Apixiban (Eliquis).

In most cases, bleeding, following an EMR will settle on its own without the need for intervention. If the bleeding does not stop, it can be managed by delivering therapy through the colonoscope (flexible camera) without resorting to an emergency operation. If there was bleeding, you would be advised to stay in hospital for an extra few days to make sure that the bleeding does not restart. Late bleeding can happen for up to 2 weeks after the procedure - see the end of this leaflet for how to recognise late bleeding following your EMR.

**Perforation** (making a hole) during EMR can happen but the risk is small. If your bowel wall is perforated during the procedure, it can be managed in two ways.

1. It may be possible to close the perforation completely using endoscopic clips, in which case, the recovery is usually very quick and you may be able to go home on the same day. If a longer period of observation is required, you will be managed in hospital with intravenous fluids and antibiotics.
  2. Very rarely, an emergency operation may be required to surgically repair the site of perforation, if endoscopic closure is not possible.
- A recognised late complication is **stricturing** (narrowing) of the bowel after EMR. This usually begins to develop 2 or more weeks after the procedure. Signs may include: difficulty passing stools or constipation. Please contact your consultant or the Endoscopy Unit if you develop these symptoms. If you have developed a stricture, this can usually be widened endoscopically as an outpatient, without being readmitted to hospital.

## What preparation will I need for my EMR?

For the endoscopist to see the bowel wall clearly, it is essential that the bowel is completely empty. The doctor requesting the test will have considered if it is safe for you to have the bowel preparation. The bowel preparation that has been sent to you works as a powerful laxative to clean your bowel. Your bowel preparation medicine and instruction sheet will have been sent to you. **Please follow the instruction sheet carefully.** It is very important that this preparation works, failure to follow these instructions may result in an **unsuccessful** procedure. Please contact the nursing team if you are experiencing any problems taking your bowel preparations.

## Do I keep taking my tablets?

You must keep taking any essential tablets unless your doctor tells you specifically not to. If you are diabetic, this should have already been highlighted by your referring doctor and you should receive additional information in the post of what to do with your medication, and the steps you need to take to prevent hypoglycaemia (low blood sugar).

- If you are taking **iron tablets** (ferrous sulphate), please stop them **5 days** before your test.
- Please telephone the Endoscopy Unit if you have **sleep apnoea** or are taking tablets that prevent **blood clots**. Examples include: Aspirin, Clopidogrel (Plavix), Ticagrelor, Dipyridamole (Persantin), Dabigatran, Edoxaban, Warfarin, Heparin, Rivaroxiban (Xarelto), or Apixaban (Eliquis).

- Women taking the oral contraceptive pill should be aware that taking bowel preparation might prevent the absorption of the pill. Additional contraceptive precautions should be taken until the next menstrual period begins.
- If you are taking Codeine, Loperimide (Immodium) or Co-Phenotrap (Lomotil), please stop these **3 days** before your procedure.

Please continue to take all your other medication as normal.

## What should I bring on the day?

You may wish to bring your dressing gown and slippers. You will be asked to change into a hospital gown that is open at the back before your procedure.

Please bring a list of medications that you take and also any medication that you may require, whilst in the department such as GTN spray, inhalers and insulin.

Please **do not** bring valuables to the department or wear lots of jewellery. Please can you also ensure that you **remove nail varnish** as this interferes with the signal we receive from our monitors about your oxygen levels. If you are staying in hospital, please bring an overnight bag and any medications that you take with you.



## What pain relief is available?

It is important that you are comfortable during the procedure to ensure that the endoscopist can perform the procedure successfully.

For EMR you have two choices of pain control:

### 1. Sedation and a pain relief drug

This will be given via a needle that is inserted into your arm. The sedation will make you feel relaxed and possibly a little drowsy but you will not be unconscious. You will hear what is said to you and will be able to carry out simple instructions given to you during the test.

Sedation can make you forgetful. Afterwards, you may not remember all the test. Sedation remains in your system for 24 hours. **You will need someone to take you home (not via public transport) and someone who can stay and look after you for 24 hours.** Sedation will **not** be given if the above has not been arranged, before your test.

Also, for 24 hours after the test you should **not**:

- be left at home alone or look after children;
- drive (you will not be covered by your insurance);
- return to work;
- use any type of machinery;
- drink alcohol; and
- sign important documents.

If you are unable to make these arrangements, please contact the Endoscopy Unit for advice, as we may need to arrange a hospital bed for the night.

There are known adverse effects from the intravenous drugs administered during the procedure, ranging from mild and common to rare and serious. These include: headaches, nausea, fainting, depression of respiratory and nervous system, which may result in aspiration pneumonia, anaphylaxis and coma. Although these serious complications are rare, they are common in patients with deeper sedation and / or general anaesthesia.

## 2. Entonox

Entonox is the gas and air mixture commonly used by women during childbirth - it can help with the discomfort during your EMR.

The gas is administered by a special mouthpiece, which you will hold yourself during the procedure. The Entonox gas works within 30 seconds and you may feel slightly light-headed and sleepy. You control the amount of gas that you have yourself by simply removing the mouthpiece, but the nurse looking after you will monitor you closely throughout the procedure and make sure you are using the gas successfully.

Entonox has some rare side-effects. These are mild nausea, dizziness and a dry mouth. As the effects of Entonox wear off quickly so do the side-effects.

One of the benefits of Entonox is that you can drive or use public transport and are free to do what you want following the procedure, provided you feel well.

**Entonox is not suitable for everyone (particularly if you have COPD or a collapsed lung). Please discuss your options with the nurse and / or the endoscopist before your test.**

Occasionally the procedure is carried out under a general anaesthetic; however, this will have been decided well in advance of the procedure and you will have specific preparation for this.

## What will happen on the day of the test?

When you arrive at reception in the Endoscopy Unit, your personal details will be checked. The assessment nurse will collect you and take your medical history, discuss and explain the procedure and take your blood pressure and pulse. You will be able to ask any questions and discuss any worries or questions that you have about the test. You will be asked for your consent form (supplied with this leaflet). This will be attached to your notes and taken to the procedure room.

Please make sure that you have read this through before you come for your procedure as when you sign your consent form you are agreeing that this is the test you want - remember, you can change your mind about having this procedure at any time. You will be asked to change into a gown in the changing rooms and will also be provided with disposable underwear. Please bring all your belongings with you into the procedure room.

The doctor who will be performing your EMR will meet you before the procedure. You will be able to ask any questions and discuss any worries you may have.

**Please note:** every effort will be made to see you at your appointment time; however, due to hospital inpatient emergencies delays may occur. The endoscopy staff will keep you informed of any delays.

## What happen in the procedure room?

You will be greeted by two nurses who will remain with you during the procedure. The team in the room will complete a checklist to ensure all of your information is correct. If you are having sedation, a cannula will be placed in your vein. You will be given oxygen through a small plastic tube in your nose. If you have chosen Entonox, you will be shown how to use it.

You will then be asked to lie on a trolley on your left-hand side with your knees slightly bent towards your chest. Your pulse and oxygen levels are monitored by a probe placed on your finger during the test.

The endoscopist will initially examine your back passage with a finger to make sure it is safe to pass the camera and then introduce the endoscope into your back passage and guide it around your bowel.

During the procedure, the endoscopist introduces air into the bowel. You may experience bloating from the air and cramp like pain as the camera goes around bends of the bowel.

Air can be relieved by passing wind (this is normal and you must not be embarrassed as the endoscopist will expect you to do this). If you are finding the procedure more uncomfortable than you would like, please let the nurse know and you may be given more sedation or a painkiller. If you are using Entonox and you feel that this is not giving you adequate pain relief, sedation can be administered as long as you have someone with you to take you home and to look after you when you get home.

You may also be asked to change your position during your procedure e.g. roll onto your back to make the procedure easier and more comfortable. If the procedure continues to be uncomfortable, a decision may be made to end the test.

**Please note:** all hospitals in the trust are teaching hospitals and it may be that an endoscopist training in EMR performs your procedure under the direct supervision of a consultant. Student nurses, doctors or medical representatives involved with equipment used during the procedure may also be present during your procedure to observe the test. If you do not wish them to be present, please inform the endoscopist.

## What happens after the test?

You will be transferred to the recovery room after the test. The length of your stay in recovery will be dependant on the pain relief method you have chosen. The nurse in the recovery room will monitor you during your recovery, prepare you for discharge and give you aftercare instructions. This can take 2 - 3 hours. You will be allowed home when the nurse and doctor are happy that you are ready to be discharged.

If you are staying in hospital after your EMR, you will be transferred to the ward when you have recovered.

Most patients feel some abdominal discomfort for a few days after the procedure, this should resolve on it's own as you pass wind. The Endoscopy Unit will provide you with information about the best way to manage this. You will be able to restart most of your normal medication immediately, following the procedure.

If you are taking blood thinning medications, then the endoscopist will decide when it should be safe to restart this medication.

## **When will I get my results?**

You will receive a copy of the endoscopy report before your discharge and this will also be sent to your consultant and GP.

The removed lesion will be looked at under the microscope and the result of this will normally be available 1 - 2 weeks, following the procedure. You will be contacted with these results, either by a letter, or you may be asked to attend a clinic. All enquiries regarding your outpatient appointment should be directed to your consultant's secretary. If you feel that you are waiting a long time for an appointment to discuss your results, your GP will also have a report so you can see them too.

## **What should I do if I become unwell after the procedure?**

Bleeding or perforation can occasionally present several days after the procedure has taken place. If you experience any severe pain in the abdomen, not relieved by passing wind, nausea, vomiting or bleeding fresh or altered blood via your back passage following your procedure, you should go to your nearest emergency department and bring the copy of your endoscopy report with you so the doctors know what procedure you have had.

This leaflet has been designed as a general guide to your test. If after reading this you have any questions that you feel have not been answered, please contact the endoscopy department on the numbers below.

**Administration Team:** for any enquiry about your appointment including cancellation. Also, contact this number if you require an interpreter or transport.

Telephone: **0113 3920692**

**Monday - Friday, 8.30 am - 4.00 pm**

**Nursing Team:** please contact this number if you would like advice on your medication, your bowel preparation or any other medical question or worry.

Telephone: **0113 3922585**

**Monday - Friday, 8.30 am - 4.00 pm**



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