Liverpool University Hospitals
NHS Foundation Trust

Patient information

Endoscopic Mucosal Resection - EMR

Gastroenterology Department

Introduction

This information sheet gives details about a procedure called Endoscopic Mucosal Resection **(EMR)**. This is a technique used to remove large polyps from the colon (large bowel) using an endoscope (a thin flexible tube with a light and camera).

What is a polyp?

A polyp is a wart-like growth that sometimes forms on the lining of the bowel. If left to grow, polyps can sometimes turn cancerous. By removing any polyps, your risk of developing bowel cancer is greatly reduced.

Why have I been referred for EMR?

We have found a polyp in your bowel. Some polyps are very easy to remove, but in your case the polyp is larger than average and will require the EMR technique to remove it.

Before your procedure

You will receive the same patient information and medication to clear your bowel out (bowel preparation) as you will have had for your previous colonoscopy.

Please take time to read the information well in advance and follow the instructions carefully. If the bowel has not been cleaned out enough, it may not be possible to do the EMR.

Important: If you have:

- **Diabetes**
- **Are taking: (Warfarin tablets, Clopidogrel (plavix) tablets**
- **Anticoagulants:**
  - **Warfarin**
  - **Heparin/low molecular weight heparin (including enoxaparin/dalteparin**
  - **Dabigatran**
  - **Rivaroxaban**
  - **Sinthrome**
  - **Apixaban**

- **Fondaparinux**
- **Edoxaban**

❖ **Antiplatelet therapy:**

- **Clopidogrel (Plavix)**
- **Prasugrel (Efient)**
- **Ticagrelor (Brilique)**
- **Dipyridamole (Persantin) and aspirin**

❖ **Are on dialysis**

❖ **Have suffered a heart attack within the last three months**

You must contact the Gastroenterology team as soon as you receive this information leaflet if you need to inform the team of any of the above.

During your procedure

From your point of view, the procedure may seem no different from your previous colonoscopy.

The EMR often takes longer than a standard colonoscopy. How long it takes will depend on the size and position of the polyp. It can take from ten minutes to an hour or more.

A sedative injection will be offered to help you relax during the test or you may have Entonox (“Gas and Air”) if this is available. Most patients find EMR comfortable. If you do have discomfort, tell the colonoscopist and more sedation can be given, or the test can be stopped.

The advantage of sedation is that it will make the procedure more comfortable for you. The disadvantage is that you will need to lie on a trolley in the department to recover from the sedation for up to one hour. The drugs used in sedation may affect your memory and concentration for up to 24 hours. Many patients remember nothing about the procedure or even what the doctor has said to them afterwards.

For these reasons, you must have a friend or relative collect you from the Gastroenterology Unit and we recommend they stay with you afterwards.

The most important side effect of these drugs is to slow your breathing – this should not normally happen but sometimes patients can be oversensitive to the drug.

This is the main reason we do not give high doses of these drugs. We also give you oxygen during the procedure.

If you are worried about any of these risks, please speak to the nurse or doctor when you arrive.

What are the risks of EMR?

EMR carries a higher risk than ordinary colonoscopy and polyp removal. This is because it is used to remove much larger polyps. It is still by far the safest way to remove large polyps and is much less risky than surgery, which is the only other way of removing large polyps.

The main risks are perforation, bleeding and pain.

- **Perforation** means making a hole in the bowel wall. This is a serious problem and, if it happens, you will always require a stay in hospital. Occasionally perforations heal with antibiotics and sometimes they can be treated with the endoscope but in some cases an emergency operation is required. As with any bowel operation, a stoma (bag on your abdomen) is occasionally required, although this would usually be temporary.

- Perforation happens, on average, **once in every 250 EMR procedures**. It may happen at the time of the procedure or (more rarely) up to two weeks later. You will be given an information sheet after the procedure to let you know what to look out for.

- **Severe bleeding** from the back passage happens, on average, **once in every 50 EMR procedures**. The risk will depend on how big the polyp is, and where in the bowel it is found. Sometimes the bleeding will happen immediately after the test but it can also occur up to 14 days later. If bleeding does occur, it often stops on its own but occasionally a blood transfusion or further endoscopies are needed. Very rarely an X-ray procedure or even an emergency operation may be necessary to stop it.

- **Some stomach pain** is not unusual for a day or two after the procedure. This is because the bowel wall is starting to heal itself. In about **one case in every 50**, the pain may be more severe and last longer. In some cases it will be necessary to spend a day or two in hospital so that strong pain killers can be given.
  If you have pain at home after the EMR, you can take paracetamol or codeine-containing pain killers. Aspirin and ibuprofen (Nurofen) should be avoided because they can increase the risk of bleeding.

Is EMR always successful?

Large polyps are removed by EMR to stop them turning cancerous. Sometimes when the endoscopist sees the polyp, he/she can tell that it has already started to turn cancerous. In this situation, a surgical operation will usually be recommended because it is important to remove completely all the cancerous cells.

Sometimes the polyp is found to be too big or technically difficult to remove by EMR. In this situation, surgery may be recommended.

Occasionally, the polyp is successfully removed by EMR but the pieces sent to laboratory show that it contains cancer cells. In this situation, once again, surgery is usually necessary.

If surgery is recommended, this will be planned at a later date and you will have plenty of time to discuss this with a doctor in clinic.

Are there any other ways of dealing with my polyp?

Yes. There are two other options:

1. Do nothing and leave the polyp where it is. This is usually not a good idea because large polyps often turn cancerous if they are left to grow.
2. Remove the polyp by having a surgical operation on the bowel. Although usually a straightforward procedure, surgery always carries a risk of serious complications.

   Part of the bowel will usually be removed and this may sometimes cause long-term side effects. Even if the operation is done by key-hole surgery, you will still be in hospital for a few days. Rarely surgery can result in a stoma (bag on your abdomen), although this may only be temporary.

The EMR procedure involves several stages:

- First the endoscopist will use the endoscope (camera) to find the polyp in your bowel.
- Next he/she will make sure that EMR is the best way to remove the polyp. You may be asked to lie on your back, or on your right side to give the endoscopist the best view.
- A cold pad will be placed on your leg or back to connect you to the electrical equipment.
- Liquid will then be injected into the bowel wall underneath the polyp, to raise it up on a cushion of fluid. You will not feel this injection at all. The liquid is often coloured blue so that the endoscopist can see where it has gone.
- A wire loop (snare) will then be placed over the polyp and electricity used to cut through the polyp tissue. Again, you should not feel this happening. If you do feel discomfort during this process you must tell the endoscopist.
- The polyp may be removed in one piece, but bigger polyps are more commonly taken off in many small pieces (piecemeal). This process can take some time.
- There should be very little bleeding. Any areas of bleeding can be treated by placing special metal clips through the endoscope. These will drop off after about 2 weeks and pass unnoticed when you go to the toilet.
- Sometimes the endoscopist will complete the EMR by burning away tiny pieces of remaining polyp using a treatment known as argon plasma coagulation (APC). This is a safe way to deliver heat (cautery) to treat superficial blood vessels to stop bleeding or to destroy small areas of polyp tissue left behind following removal of larger polyps.
- During the use of APC gas can inflate the bowel which may become uncomfortable like ‘trapped wind pain’ – do tell the endoscopist if the ‘wind pain’ becomes severe so that some of the gas can be removed and the pain should settle immediately.
- When the EMR is complete, the endoscopist will gather up all the pieces of polyp and remove them through the back passage with a net. Rarely, you may be asked to sit on a bed pan after the procedure to see if you can pass any pieces that were not retrieved.

After your procedure

You will be able to rest in the recovery area until the immediate effects of the sedation have worn off. Most patients can go home the same day provided they are accompanied home and have a responsible adult at home with them for that day, and overnight.

Sometimes (for example if the polyp was very large, or if you live a long way from the hospital) the colonoscopist might advise you to stay in hospital overnight as a precaution. Please bring an overnight bag with you in case this is recommended.

The effects of sedation will stay in your system for around 24 hours.

For the next 24 hours you must not:

- Travel alone
- Drive any vehicle.
- Operate machinery (including domestic appliances such as a kettle)
- Climb ladders.
- Make important decisions, sign any business or legal documents.
- Drink alcohol
- Return to work within 12 hours of treatment. Your general health and any medicines you are taking may increase the time you need off work.

You should

- Take it easy for the rest of the day, avoid strenuous activity.
- Take your medications as usual.
- Let someone else care for anyone you usually look after, such as children or elderly or sick relatives.
- Avoid flying by aeroplane for up to 2 weeks after the procedure.

You may be sent a further colonoscopy appointment about 6 months after the EMR, to check all of the polyp has gone and the scar has healed. This is usually a quick procedure. Occasionally, more treatment is required with argon plasma coagulation.

Once the endoscopist is sure the polyp has completely gone, a further colonoscopy may be arranged for 12 months later.

Travelling abroad following EMR?

There is a small risk of side-effects or problems happening for up to 14 days after an EMR. For this reason, you are strongly advised to avoid air travel for two weeks.

Further information

If you have any questions, please contact the Gastroenterology Unit:

Monday- Thursday	**0800-1800**
Friday	**0800-1700**
Saturday/ Sunday/ BH	**0800-1600**

Tel: 0151 706 2656/2819/2726
Textphone: 18001 0151 706 2819/2726

The Emergency Department (A&E) is open 24 hours
Tel: 0151 706 2051/2050
Text Phone Number: 0151 706 2051/2050

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All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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