This information has been produced to provide you with details about a procedure called ‘Endoscopic Mucosal Resection’ (EMR). This procedure is used to remove large polyps. This information aims to answer any concerns that you may have. Please do not hesitate to ask a member of staff if you have any further questions or concerns.

Why have I been referred for EMR?

We have found a polyp in your bowel. Some polyps are straightforward to remove and are removed at the time of your initial endoscopic examination, but in your case the polyp is larger than average and requires the ‘EMR’ technique. This is generally considered the simplest and safest method for removing this sort of polyp. The aim of this technique is to remove the polyp fully, safely by using techniques to reduce the risks of complications like bowel perforation, bleeding and recurrence of polyp and to detect if there are any cancer cells in the polyp.

Benefits of removing such large polyps include:
- Reducing risk of cancer development in the polyp
- Diagnosing cancer in the polyp
- Improving symptoms caused by a polyp

Before your procedure

You will receive the standard patient information and medication for bowel washout before the test. This is the same information and bowel preparation that you will have had for your previous colonoscopy procedure. Please take time to read the information and follow the instructions INCLUDING Low Fibre Diet for 3 to 5 days.

Please contact the Endoscopy department immediately if you:
- Are a diabetic
- Have suffered a heart attack within the last 3 months
- Are having kidney dialysis
- If you are taking warfarin or acenocoumarol or clopidogrel (Plavix®) or dipyridamole (Persantin® or Asasantin®) or Aspirin or other anti-coagulants (Dabigatran or Pradaxa®, Apixaban or Eliquis®, Rivaroxaban or Xarelto®)
- You will need to stop Iron tablets 1 week before the procedure
During your procedure

From your point of view, you may notice no difference from your previous colonoscopies. More general information about having a colonoscopy is given in the separate leaflet which you will receive. The EMR procedure can take longer than a standard colonoscopy - this can vary depending on the size and position of the polyp, but can take up to 90 minutes. A sedative injection can be given to help you relax during the test. The test can be stopped at any time on your request, though medical advice would be to attempt to remove the polyp fully at a single session as repeat procedure can increase risk of complications.

During the procedure, the endoscopist will find the polyp which has previously been detected in your bowel, then assess whether EMR is the best way to remove the polyp and if so, will attempt to remove the entire polyp using the endoscope equipment. The diagram below illustrates the technique.

![Diagram of EMR procedure]

A special needle is passed through the colonoscope and inserted under the base of the polyp. Fluid is injected through the needle to raise the polyp away from the lining of the bowel wall. A wire snare is then passed through the scope and positioned around the raised polyp. The snare is pulled tight and an electric current is passed through the snare which cauterises any blood vessels as the polyp is cut off. If the polyp is very large, it may be removed in a number of pieces in the same way.

Argon Plasma Coagulation (APC) may be used to cauterise the edge and base of the area of polyp removal to reduce the risk of bleeding and polyp recurrence.

Endoscopist may mark the area of the removed lesion with ink (tattoo) so that when follow-up endoscopy is performed, he or she can be sure the lesion was removed completely.

What are the risks of EMR & APC?

EMR carries the same risks of standard colonoscopy. These are explained in the colonoscopy information leaflet. However because of the technical nature of EMR, the risk of perforation or bleeding is significantly higher (although still uncommon). In general EMR is considered the safest technique for removing this sort of polyp.

The main risks are:

- **Perforation** – this means tearing a hole in the bowel. For EMR, this occurs about once in every 50 to 100 patients (1 to 2 %) with the highest risk when removing large polyps from the right hand side of your colon. This will necessitate hospital admission. Occasionally perforations heal with antibiotics and sometimes they can be treated with the endoscope by using metal clips. However usually 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 of bowel can occur or come to light up to a week after the procedure.
**Bleeding** – bleeding may occur once in every 50 or 100 patients (1-2%). Sometimes bleeding occurs during the test, but it can occur up to 14 days after the procedure. If bleeding does occur, it often stops on its own. However, very occasionally it requires a blood transfusion or further endoscopic procedure. Very rarely an emergency operation may be required to stop it. As with any bowel operation, a stoma (bag on your abdomen) is occasionally required, although this would usually be temporary.

Serious complications related to bowel perforation and bleeding carry a small risk of mortality.

**Incomplete removal** - sometimes the endoscopist cannot remove all of the polyp for technical reasons – if this happens, a repeat endoscopic procedure might be planned at a later date or may refer you for an elective operation.

Rarely, occult cancer may be present in the polyp and this might be missed if all the removed polyp is not retrieved for microscopic examination. If a cancer is detected in the polyp removed on microscopic examination, you will be referred for consideration of further investigation and treatment including surgical bowel resection.

**What happens if the endoscopist does not think that EMR is possible?**

In this case, you will usually be seen in clinic, and the referring doctor will discuss whether you need to have an operation to remove the polyp.

**Are there any other ways of dealing with my polyp other than EMR?**

1. Do nothing – leave the polyp where it is. However this is usually not advisable as large polyps often turn cancerous if they are left to grow or there may be occult cancer already present in the polyp.

2. Remove the polyp by having a major operation on the bowel. Although usually a straightforward procedure, this carries the risk of the general anaesthetic and surgery (such as infection) and usually leaves you with a scar on the abdomen (tummy). Sometimes this can require a stoma (bag on your abdomen), although this may only be temporary.

**After The procedure**

You will usually be ready to go home approximately 1 to 2 hours after the procedure has ended, though sometimes we might admit you to hospital for overnight observation. Please bring an overnight bag with you in case this is recommended. Please ensure that a responsible adult is able to collect you from the department, take you home and stay with you for 24 hours. If you are an inpatient you will be transferred to the ward.

Before you are discharged you will be given a copy of the report and clear details concerning follow up arrangements and aftercare information. A full report will be sent to your GP and referring hospital consultant. You will be given contact details in the event of any complications that may occur. The polyp is usually retrieved during an EMR procedure and sent to the pathology laboratory for further analysis. It can take up to 2 weeks before a result is available. Your consultant will then be in touch with you regarding these results. Sometimes decisions about further treatment can only be made once these results are available.
Please avoid doing any strenuous physical activity, constipation and straining, flying or travel abroad for 2 weeks. After 2 weeks the chances of any complication is less than 1 in 1000.

The following signs or symptoms may indicate a serious complication from endoscopic mucosal resection:
- Fever, Chills ,
- Sustained Vomiting ,
- Black or Bright red blood in the stool,
- Chest or severe abdominal pain, new onset Shortness of breath, Fainting

You need to contact hospital or GP or attend emergency department with a copy of your report in the event of any of the above symptoms.

**Follow-up exams**

Typically, a follow-up exam is performed three to 12 months after your procedure to be sure the entire lesion was removed. Depending on the findings, your doctor will advise you about further examinations.

**CONTACT TELEPHONE NUMBERS:**

Endoscopy Monday to Frday 8:30am- 5:30pm 01246 512197
If your call is out of these hours please contact our 24hour contact number 01246 513580
Emergency A&E : 01246 277271