Patient information

Endoscopic Submucosal Dissection (ESD)

Gastroenterology Department

Introduction

This information sheet gives details about a procedure called endoscopic submucosal dissection (ESD). 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 ESD?

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 ESD technique to remove it.

What is an ESD?

Endoscopic submucosal dissection is a technique for removing flat or challenging polyps from the bowel.

Fluid containing a blue dye is injected underneath the polyp to “lift” or create a cushion of liquid, so it is clear of the deeper layers of the bowel wall. A special, electrically heated knife is used to cut around the polyp. A small electric current is passed through the knife to heat and cauterize any blood vessels.

The endoscopist then “dissects” carefully beneath the polyp using the knife. This can often take more time than any previous endoscopy procedures you may have attended. The aim of the procedure is to try and remove the polyp in one piece.

The procedure requires patience, time and skill and was originally developed in Japan. It has become the standard method for removing certain types of polyps in many specialist centres around the world. It is being performed in a number of hospitals around the UK and it has been approved by NICE (National Institute for Clinical Excellence).

Are there any other ways of dealing with my polyp?

1. Leave the polyp alone and have no treatment to remove the polyp. This is not usually recommended as polyps that are left have the ability to turn cancerous if they are left to grow.
2. Remove the polyp with a surgical operation (resection) of the bowel. Although usually a straightforward procedure, surgery carries a risk of serious complications. Part of the bowel is removed and can sometimes cause long term effects. Many patients would prefer to avoid surgery if possible but some may choose this option as it is a “tried and tested” solution and can guarantee complete removal of the polyp.
3. Removal of the polyp by endoscopic mucosal resection (EMR). This is an endoscopic procedure which uses a wire loop (snare) to remove the polyp. Using this technique, the polyp can be removed piece by piece. EMR is a widely used procedure, it is quicker, safer and easier than ESD. Unfortunately, not all polyps are suitable for EMR.

Polyps not suitable for EMR include:

1. Polyps that have regrown (recurred) after a previous attempt to remove them. EMR can be difficult due to scarring.
2. Polyps that we suspect may be very close to developing into cancer. For these removal piece by piece is not recommended as we need to be sure all the tissue has been removed.

ESD offers an alternative to polyps that are not suitable to be removed by EMR.

Why have I been referred for ESD?

We have found a polyp in your bowel and it is important that it is removed completely. Your case has been discussed by a number of experts in a multidisciplinary meeting (MDT) and ESD has been recommended.

What are the risks of ESD?

ESD carries a higher risk than ordinary colonoscopy and polyp removal. This is because it is used to remove more complex polyps.

The main risks are perforation, bleeding and pain

- **Perforation** (making a hole in the bowel wall) is reported to occur in one to three percent **of ESD cases**. A perforation can usually be closed with clips but hospital admission is usually required and, in the worst case, emergency surgery may be necessary to repair the damage. Surgery may involve removal of part of the large bowel and will occasionally require a temporary stoma (drainage bag).

- **Bleeding can occur during the procedure or occasionally after you have gone home. Significant bleeding is reported in one to six percent.** 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.

- **Post-procedure pain (post-polypectomy syndrome) is usually relatively mild but may occasionally require hospital admission 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 ESD, you can take paracetamol or codeine-containing pain killers. Aspirin and ibuprofen (Nurofen) should be avoided because they can increase the risk of bleeding.

- **Infection** requiring a course of antibiotics is a rare complication.

- **Post-procedure pain** (post-polypectomy syndrome) is usually relatively mild but may occasionally require hospital admission.

- **Incomplete excision:** during the procedure it can becomes apparent that the polyp cannot be removed completely by ESD or that an alternative removal method would be better.

Is ESD always successful?

Polyps are removed by ESD to stop them turning cancerous. Sometimes when the endoscopist is assessing the polyp to remove the lesion they may be able to tell that the polyp has already started to turn cancerous. In this situation a surgical operation will be recommended because cancer cells may have spread deeper into the bowel and complete removal cannot be achieved by ESD.

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

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

Before your procedure

You will receive 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 ESD.

Important: If you have:

- **Diabetes**
- **Are taking**
- **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**
- **Iron tablets**
- **Are on dialysis**
- **Have suffered a heart attack within the last three months**

You must contact the Complex Polyp Team as soon as you receive this information leaflet if you need to inform the team of any of the above which has not been identified at your pre- assessment appointment.

During your procedure

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

ESD 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 30 minutes to 4 hours.

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.

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.

The ESD 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 ESD 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.
- An electrically-heated knife is used to cut around the polyp. You should not be able to feel this, inform the endoscopist if you do feel discomfort.
- The knife is then used to dissect underneath the polyp. This process may take some time. Some patients do report some mild discomfort during the dissection.
- There should be very little bleeding. Any areas of bleeding can be treated by cauterizing the blood vessels with a special electrically heated grasper. Sometimes placing special metal clips through the endoscope onto a vessel is used. These will drop off after about two weeks and pass unnoticed when you go to the toilet.
- 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.

Usually, the team will contact you and inform you if any further endoscopic procedures are required.

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

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 two weeks after the procedure.

Travelling abroad following ESD?

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

Further information

If you have any questions, please contact the Complex Polyp Team:

Monday- Thursday	**0800-1700**
Friday	**0800-1700**

Tel: 0151 706 4982
Text Phone Number: 18001 706 4982

The Emergency Department (A&E) is open 24 hours.
Tel: 0151 706 2051/2050
Text Phone: 18001 0151 706 2051/2050

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