Endoscopic Submucosal Dissection for Complex Polyps and Early Cancers of the Upper and Lower Gastrointestinal Tract

What is Endoscopic Submucosal Dissection (ESD)?

ESD is an advanced procedure to remove large or complex polyps from the large bowel, small bowel, stomach or oesophagus. The procedure is carried out with the help of a colonoscope or gastroscope (long flexible camera). The camera is passed into the bowel and then the polyp is located. Next, the polyp is raised away from the bowel wall using an injection of fluid. This injection makes it easier for the polyp to be removed. Finally the polyp is removed with the use of a diathermy; you will not feel it being removed.

The goal of ESD is removal of polyps that have not entered the muscle layer of the bowel wall. The benefit of ESD over other methods of polyp removal, is that they can be removed in one piece (en bloc). This is important because then histopathologists can assess the whole polyp under a microscope and see more clearly if the polyp contains any cancerous cells and whether it has been completely removed. This allows us to more accurately plan your follow up and how often you will need surveillance.

Why am I having an ESD?

You are having this procedure because during your previous investigations, it has been discovered that there are one or more polyps in your bowel or upper gastrointestinal tract which as per the advice of doctor should be removed by this method. These lesions are usually larger in size or are more complex and removing it in one piece by ESD is preferable to removing it in pieces.

What is involved?

The ESD procedure is performed during an endoscopic procedure (a camera test in the bowel, oesophagus or stomach). Depending upon the size and position of the polyp this procedure usually takes a longer time than the standard camera test. It can take anywhere from 30 minutes to four hours, depending on complexity. Before the procedure you will need to take bowel preparation (for bowel ESD) or be fasting for at least six hours (for upper gastrointestinal ESD).

You will need full bowel preparation even if you are only having a sigmoidoscopy, because it is important to ensure the bowel is as clean as possible when removing large polyps. Please follow the instructions given to you by the nursing staff. Occasionally it may be necessary to stay in hospital overnight for observation after the procedure.

Currently, this procedure is performed at this Trust as a Novel Procedure. This means that doctors performing it are trained by other experts but have not done procedures on patients, or they have done only a small number of these procedures. There will be an experienced expert in the

operating room with the doctor performing the procedure in initial cases to ensure your safety and that the procedure goes well.

What are the benefits?

The ESD has got certain advantages compared to other related procedures:

- The entire polyp can be removed in one complete piece (en bloc).
- As compared to surgery part of the colon is not removed, allowing patient to maintain his or her quality of life.
- ESD is considered as a curative treatment for early cancerous polyps, as long as the cancer has not spread through the lymph nodes locally or into deeper layers of the bowel. In these cases, surgery may be needed.
- Patients who have ESD have a low recurrence (return) rate (the cancer rarely comes back).
- Ultimately, the benefit of ESD is complete removal of a large complex polyp or early cancer from the gastrointestinal tract without the need for surgery. ESD can, in some cases, provide a cure from cancer. In the case of large polyps, ESD can provide removal of those polyps and make the risk of progression to cancer negligible without any further therapy.

What are the risks?

There are inherent risks of any gastroscopy, colonoscopy or flexible sigmoidoscopy, which are explained in the separate information sheets. However, because of the technical nature of an ESD, the risk of some particular complications is higher.

- **Pain**
    - Most patients experience some degree of discomfort. This may be due to the CO2 gas that is being put inside the bowel to improve visibility, which causes the bowel to stretch, or it can happen due to the intervention and cutting of the polyp and the bowel wall. This usually goes away spontaneously after a few hours to a day.
- **Side Effects and risks of Sedation**
    - Slow heart rate
    - Impairment in breathing or sedation-related effects
    - Irregular heart rate
    - Low blood pressure

As you will be given a sedative and a pain killer into your vein to make the procedure more comfortable, there may be some risks that arrhythmias or depression of breathing may occur. These happen rarely and can be rapidly reversed. Also, some patients experience slowing of the heart rate and drop in blood pressure, called a vasovagal reflex, during long endoscopic procedures. Usually those are self-limiting and do not require intervention other than relieving the gas from the bowel and a pause in the procedure until they resolve.

- **Infection**
    - As with any endoscopic procedure, there is a possibility of an infection in the bowel developing. This is an extremely small risk and is measured in 1 in several thousands of procedures.
- **Perforation**

  - This is a small hole or tear, in the bowel wall. It can happen in 5-10% of patients. Some perforations may heal without the need for surgery, but sometimes an emergency operation is required. Most perforations are recognised immediately during the procedure and closed with clips. Perforation can sometimes lead to infection of the abdominal cavity and sepsis, although if the tear is closed immediately this risk is low.

- **Bleeding**

  - Bleeding can occur in up to 14% of patients. This may occur during the procedure or may be delayed up to 14 days afterwards. It may stop of its own accord, without any intervention, but sometimes a blood transfusion or a repeat endoscopy is required. On very rare occasions, an operation is needed to remove that part of the bowel which is bleeding.

- **Incomplete Removal**

  - Sometimes the Endoscopist may not be able to remove the entire polyp. In this case another colonoscopy or an operation may be advised.

- Occasionally, after ESD procedure and microscopic evaluation of the removed tissue, we may realise that the cancer has affected some deeper areas of the bowel wall or may have spread to small lymphatic vessels in the bowel wall. In this case there is a higher risk of the lesion spreading to other areas of the body. You may then need surgery even if the polyp has been removed with ESD in order to minimise the risk of any further spread.

- We recommend you do not fly for at least two weeks after the procedure, due to potential complications and insurance cover.

- As this is a Novel Therapeutic procedure in this Trust, the complications risks may be on the higher end of those outlined above, however we will do all we can to ensure that these do not occur, including having an experienced expert in ESD who will be present in the operating room during the initial procedures.

Will I require another endoscopy after ESD?

Repeat colonoscopy is usually performed 3–6 months after the ESD to look for recurrence (if the polyp has come back). If this shows no recurrence then annual or 3 yearly endoscopy is performed in most of the cases.

Are there any alternatives

There are three main alternatives to ESD

- To do nothing and leave the polyp in place, however there is a high risk of a cancer developing from the polyp.

To remove the polyp with EMR (Endoscopic Mucosal Resection) rather than ESD. This often involves removing the polyp in several pieces, rather than in one complete piece. The recurrence rates for large polyps removed by EMR are higher than for ESD. However, risks of bleeding and

perforation are somewhat lower. Large polyps removed with EMR may not offer the same microscopic information as those removed with ESD.

- The polyp could be removed by an operation (surgery), by removing the involved part of the bowel. This would carry the risks of a general anaesthetic and surgical complications and the level of these risks would also depend on other medical conditions you may have.

Contact details:

Solihull Endoscopy Unit
Monday to Friday 8.30am to 5.30pm
Excluding Bank holidays **0121 424 5394**
An answer phone is available for you to leave your name, telephone number and message. We will return your call.

Heartlands Endoscopy Unit
Monday to Friday 8:30am to 5.30pm - Excluding Bank holidays
Nursing/Medical enquiries **0121 424 0438**

Good Hope Hospital - Scoping Suite Treatment Centre
Monday to Friday 8:30am to 5.30pm
Excluding Bank holidays **0121 424 0596**

Queen Elizabeth Endoscopy Unit
Monday to Friday 8:30am to 5.30pm
Excluding Bank holidays **0121 371 3833**

Our commitment to confidentiality
We keep personal and clinical information about you to ensure you receive appropriate care and treatment. Everyone working in the NHS has a legal duty to keep information about you confidential.

We will share information with other parts of the NHS to support your healthcare needs, and we will inform your GP of your progress unless you ask us not to. If we need to share information that identifies you with other organisations we will ask for your consent. You can help us by pointing out any information in your records which is wrong or needs updating.

Additional Sources of Information:
Go online and view NHS Choices website for more information about a wide range of health topics http://www.nhs.uk/Pages/HomePage.aspx

You may want to visit one of our Health Information Centres located in:

- Main Entrance at Birmingham Heartlands Hospital Tel: 0121 424 2280
- Treatment Centre at Good Hope Hospital Tel: 0121 424 9946
- Clinic Entrance Solihull Hospital Tel: 0121 424 5616
  or contact us by email: healthinfo.centre@heartofengland.nhs.uk.

PATIENT SATISFACTION SURVEY

Information for Patients

Your Feedback is important to us. Please use the QR code below to complete our patient feedback survey, and let us know how we can improve our services for you.

If you require this information in another format, such as a different language, large print, braille or audio version please ask a member of staff or email: interpreting.service@uhb.nhs.uk