

# Advanced Endoscopic Resection of Polyps in the Large Bowel with CitraFleet

**This leaflet has three sections: The first section explains the procedure and techniques for endoscopic removal of polyps in the large bowel, including the benefits, risks and any alternatives. The second section explains how to prepare for the procedure, what to expect when you come to hospital and the third section outlines when to stop eating and how to cleanse your bowel. It is important to read all sections to ensure that you are fully prepared for the procedure. If you have any further questions, please speak to a doctor or nurse caring for you.**

## **Section One:**

### **Introduction**

This leaflet aims to help you understand more about the techniques used to remove large polyps, areas of abnormality or early cancer involving the lining of the gut.

The two main techniques are known as Endoscopic Mucosal Resection (EMR) and Endoscopic Submucosal Dissection (ESD).

We hope the information presented here will answer some of the questions that you or those who care for you may have. This leaflet is not meant to replace the consultation between you and your medical team but aims to help you understand more about what is discussed.

### **What is a polyp?**

A polyp is a growth that can develop on the lining of the bowel. If left to grow, polyps can sometimes turn cancerous. By removing polyps your risk

of developing bowel cancer is greatly reduced.

### **What are EMR and ESD?**

EMR and ESD are two different techniques for removal of polyps or early cancers from the lining of the intestinal wall through a colonoscope, thereby avoiding the need for surgery.

These procedures are primarily used for treatment (by removing polyps) but can also be used for diagnosis by removing and retrieving tissue that can be analysed. If an early cancer is thought to be present within a polyp, ESD can help to determine if the cancer involves deeper layers of the digestive tract, which can then help guide treatment decisions.

### **What do EMR and ESD involve?**

In both techniques, an endoscope is passed into the bowel to find the polyp seen during your previous test. You may feel discomfort as if you want to go to the toilet and short-lasting cramps can occur. A small amount of fluid is injected under the polyp to lift it away from muscle beneath it, thus creating a safe field to remove it. You will not feel the polyp being removed.

In EMR a wire loop is passed down the endoscope and placed over the polyp. A small amount of electrical current (diathermy) will be passed through the wire loop to cut the polyp while cauterising (sealing) its blood supply. If the polyp is large, these steps may need to be repeated until the polyp is completely removed.

In ESD special equipment is used to cut around and underneath the polyp or area of concern.

It allows for the removal of the abnormal tissue in one piece.

The advantage of ESD over EMR is that it removes deeper layers of tissue which can provide a greater degree of confidence that cancer cells (if present) have been fully removed. However, the ESD procedure usually takes longer to perform than an EMR and has a higher rate of complications.

It is necessary for sedation to be used in this procedure. Please read the important instructions in Section 2 about the arrangements you will need to make following the procedure.

### **During your EMR or ESD**

The EMR or ESD procedure can take longer than a standard colonoscopy. This can vary depending on the size and position of the polyp / abnormal area but can take up to several hours. An injection of a painkiller and a sedative injection will usually be offered at the start of the procedure to help make you feel more relaxed and comfortable but it does not put you to sleep.

### **What are the risks of EMR and ESD?**

The risks of EMR and ESD are smaller than the risks of surgery. Although uncommon, the main risks are:

- **Perforation** – This means making a hole through the wall of the digestive tract. With EMR, this can occur about once in every 100 patients and, with ESD, this can occur about once in every 50 patients. Sometimes perforations can be treated at the time of the endoscopy, usually combined with a short course of antibiotics, but occasionally an emergency operation is required.
- **Bleeding** – Minor bleeding is seen commonly during and rarely after, EMR or ESD procedures and is most often able to be identified and treated at the time of endoscopy. Bleeding can occur up to 14 days after the procedure and usually settles on its own. About once in every 100 patients, bleeding is more significant and may require a blood transfusion or a further endoscopy to assess and treat the site of bleeding. Very rarely, an emergency operation may be required to stop it.
- **Incomplete polyp removal** – Sometimes, it is not possible for the endoscopist to remove the entire polyp for technical reasons. If this happens, further endoscopic resection or an operation might be planned later.

- **Narrowing of the large intestine** - Removing large rectal lesions can lead to scarring that narrows the large bowel. It may lead to difficulty in opening the bowels and may require further treatment. This is a very rare complication and is usually amenable to medicine to soften the stool or stretching of the area if required through the endoscope (colorectal dilatation).

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

Even if you have been scheduled for an EMR or ESD procedure, the endoscopist may (after careful assessment of the polyp) determine that it is not safe or possible, to proceed with the polyp removal. If this is the case, the doctor will discuss whether you need to have an operation or an alternative procedure to remove the polyp or abnormal area.

### **Are there other options?**

Yes. There are two other options:

1. Do nothing – leave the polyp or abnormal lesion alone. However, the risk is that larger polyps are at greater risk of turning cancerous if they are left to grow.
2. Remove the polyp or abnormal area by having a surgical operation to remove the section of bowel in which the polyp is located. This carries the risk of general anaesthetic and wound infection and will leave a scar on the abdomen. Sometimes surgery can require the formation of a stoma (which results in a bag on your abdomen), although this may only be temporary.

If you are considering an operation, further details will be provided by the surgeon undertaking it, who will discuss the risks and benefits in greater detail with you.

## Section Two:

### EMR / ESD with CitraFleet

**This section explains how to prepare for this procedure, including what medications you may need to stop, when to stop eating and what to expect when you come to hospital.**

These procedures are undertaken in the Endoscopy Unit at St George's Hospital. You will be contacted by one of our nursing team before your procedure, to record your health history and to advise on any changes to your medication.

#### Important information about your procedure

- St George's is a national training centre for endoscopy. Students and qualified trainees may be involved in your care. If you do not want students to be present, please inform the doctor or nurse when you are admitted.
- We recommend that you have sedation for this procedure so please arrange for a friend or relative (18+) to escort you home after your appointment and to stay with you overnight. Please bring an overnight bag with you in case you require admission to the hospital following your procedure. We kindly ask escorts not to wait in the Endoscopy Unit due to limited space but we will call when it is completed.
- **Three days before** your appointment, **start a low fibre diet.**
- **STOP EATING 24 HOURS before your appointment**, clear fluids are allowed (**no milk**).
- Take the bowel preparation as per the instructions from Page 7.
- **STOP DRINKING CLEAR FLUIDS TWO HOURS** before your appointment.
- We recommend you bring a book or magazine with you to read whilst you are waiting. Mobile phone signal is weak.

### Important information about medication

- If you are taking medications for **diabetes** or to **prevent blood clots** such as Warfarin, Apixaban, Edoxaban, Rivaroxaban, Dabigatran, Clopidogrel, Ticagrelor or Prasugrel, please follow the instructions provided by the nurse. If you have not been contacted, please **contact us** on the telephone numbers on page 6.
- Seven days before the procedure, stop taking iron tablets.
- Four days before the procedure, stop taking constipating medicines such as Imodium (Loperamide), Lomotil or codeine phosphate, or stool bulking laxatives such as Fybogel or Movicol. (If taking codeine-based medicines, please consult your GP to discuss if any alternatives are available).
- Take all other medications as usual but do not take oral medications one hour before or one hour after taking the bowel preparation.
- If you are taking the contraceptive pill, please take additional precautions for one week following the bowel preparation.
- Please bring a list of your regular medications and bring any inhalers or sprays with you.
- If you a diabetic, please bring your medication and a snack to eat after the procedure.

### Asking for your consent

It is important that you feel involved in decisions about your care. You will be asked to sign a consent form to say that you agree to have the treatment and understand what it involves. You can withdraw your consent at any time, even if you have said 'yes' previously. If you would like more details about our consent process, please ask for a copy of our policy.

### On arrival at the endoscopy unit

- A nurse will check your details, including health history, medications

and allergies.

- You will have the opportunity to ask any final questions with the endoscopist before the procedure and you will be asked to sign a consent form.
- You will be asked to change into a gown and privacy shorts.
- An intravenous cannula will be inserted and secured before the start of the procedure.

### **What happens after your procedure?**

You will be able to rest in the recovery room until the immediate effects of the sedation have worn off, approximately one hour. Most patients can go home the same day, provided they are feeling well, are accompanied home by a family member or friend and have a responsible adult staying with them for that day and overnight.

Sometimes, for example if the polyp was very large or your procedure was prolonged or if you live a long way away from the hospital, the consultant might advise that you stay in hospital overnight as a precaution. Please be aware that you will be required to be admitted to the hospital overnight after your procedure if you are not able to be accompanied home. You **MUST** make us aware if this is likely to be the case well in advance of your procedure, so that the necessary arrangements can be made. Avoid air travel for one week following the procedure. However, if it is necessary, please consult the airline and your insurance company.

A nurse will give you a copy of the endoscopy report as well as some important discharge advice. A normal diet can usually be resumed once the procedure is complete.

### **What should I look out for after the procedure?**

Immediately after the procedure, you may experience trapped wind. This usually passes over the next 24 hours. It can be eased with peppermint capsules or peppermint tea. Occasionally you can feel faint or sick. This usually passes during your recovery period in the endoscopy



unit.

If you develop any of the symptoms listed below after you have left the endoscopy department, please seek medical advice immediately by attending the nearest Accident and Emergency Department (A&E). Please take with you a copy of your endoscopy report. Please also inform the Advanced Endoscopic Therapy Nurse (**Monday to Friday, 9am to 5pm**) on the numbers under **Contact us** on Page 6.

The symptoms to look out for include:

- Fever
- Chills
- Bowel motions containing large amounts of blood or clots
- Abdominal pain
- Shortness of breath
- Fainting

### **Will I have a follow-up appointment?**

The tissue that has been removed will be sent for analysis. It usually takes from one to three weeks but can sometimes take up to six weeks for the tissue to be analysed and reported. If further action is required based on the analysis of the tissue obtained, we will contact you with the next steps.

A repeat follow-up procedure is usually required to assess the area where the polyp / abnormal tissue was removed and this will be documented on your endoscopy report. An appointment will be sent out to you accordingly but if you do not receive this within the expected timeframe, please contact the Endoscopy Department on the phone numbers below.

### **Where do I go?**

St George's Hospital, Blackshaw Road, London, SW17 0QT. Please go to the Endoscopy Unit, First floor, St James' Wing.



## Section Three:

### Is there parking at the hospital?

At St George's Hospital, the car park entrance is located on Blackshaw Road.

### Contact us

If you wish to discuss the EMR or ESD procedure with someone or if you have any further questions, please contact:

#### **Advanced Endoscopic Therapy Nurses**

Endoscopy Department, St James' Wing

St George's Hospital

Telephone: 020 8725 1682 / 4311

Monday to Friday, 9am to 5pm

#### **Endoscopy Unit**

St George's Hospital

Telephone: 020 8725 1913 / 1491

Monday to Friday, 9am to 5pm

### HOW TO PREPARE FOR THE PROCEDURE

It is important to reduce the amount of fibre you eat **before starting the bowel preparation**. This means avoiding cereals, wholemeal bread, salads, fruits or any food containing nuts or seeds.

### THREE DAYS BEFORE THE PROCEDURE, START A LOW FIBRE DIET

**This table shows what foods you can eat and what you need to avoid before you start taking the bowel preparation. You must STOP EATING 24 hours before the procedure.**

<b>Food and drink allowed - up to 24 hours before appointment ONLY</b>	<b>Food and drink to avoid:</b>
<ul style="list-style-type: none"> <li>✓ Lean beef, lamb, ham, veal, pork, chicken</li> <li>✓ Fish, shellfish</li> <li>✓ White rice, noodles or white pasta</li> <li>✓ Peeled potatoes; boiled, baked or mashed</li> <li>✓ Well-cooked cauliflower florets (no stalks), carrots, turnip or swede</li> <li>✓ Gravy made from stock cubes</li> <li>✓ Soya and tofu</li> <li>✓ Eggs</li> <li>✓ Clear soup, strained soup</li> <li>✓ Soft tinned fruit in natural juice, <b>no pips</b></li> <li>✓ Cornflakes, Rice Krispies</li> <li>✓ White bread or toast, honey, marmite</li> <li>✓ Rich Tea or other plain biscuits, crackers</li> <li>✓ Sponge cake, plain scone (no fruit)</li> <li>✓ Butter, Milk, Cream</li> <li>✓ Fruit flavoured, set yoghurt</li> <li>✓ Jelly jam</li> </ul>	<ul style="list-style-type: none"> <li>x Fibrous meat; beef burgers, sausages</li> <li>x Fruit (fresh, dried, or tinned with pips)</li> <li>x Brown rice and whole wheat pasta</li> <li>x Vegetables (not listed on the left)</li> <li>x Roasted potatoes or chips</li> <li>x Baked beans</li> <li>x Pies, pastries, sausage rolls</li> <li>x Pulses or lentils</li> <li>x Thick vegetable soup</li> <li>x High fibre, wholemeal / multigrain bread</li> <li>x High fibre cereals and porridge, bran</li> <li>x Jam / marmalade</li> <li>x All nuts and seeds</li> <li>x Whole fruit yoghurt, muesli yoghurt</li> <li>x Crisps, digestives, Hob-nobs</li> <li>x Cakes containing fruit, nuts or coconut</li> <li>x Jam or marmalade with skin or pips</li> <li>x Peanut butter</li> </ul>

<ul style="list-style-type: none"> <li>✓ Jelly; green or yellow only</li> <li>✓ Water, tea, coffee, fizzy drinks, clear fruit juice e.g. apple juice</li> </ul>	<ul style="list-style-type: none"> <li>x Cheese, cottage cheese, cheese sauce</li> <li>x Cloudy juice, juice with bits, smoothies</li> <li>x Red / blackcurrant cordial/squash/jelly</li> </ul>
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### Advice for diabetic patients

The bowel preparation can upset your diabetes temporarily. A nurse will contact you with advice on how to manage your diabetes whilst you are fasting. If you have not been contacted, please contact us on the telephone numbers on page 6 of this leaflet under **Contact us**. Alternatively, you may wish to speak to your diabetic nurse for advice.

### FASTING AND CITRAFLEET INSTRUCTIONS

It is very important you follow the instructions below which are necessary to clear your bowel of stool and to enable the procedure to be successful.

### DO NOT EAT FOOD FOR 24 HOURS BEFORE THE PROCEDURE

Please check your appointment time to see when to stop eating. During the fasting period, please **DRINK CLEAR FLUIDS ONLY**. Stop drinking two hours before your appointment time.

**Clear fluids include:**  
**Water, fizzy drinks, Lucozade, squash (not red or black current), clear soups, Bovril or broth, black tea and coffee (no milk) and jelly (green and yellow only).**

Please follow the instructions on the following page (rather than the manufacturer's leaflet) and according to your appointment time.

### **How to prepare CitraFleet**

The standard CitraFleet preparation consists of two sachets taken as instructed. If you had difficulty clearing your bowel previously or have chronic constipation, you may be asked to follow the 'Enhanced CitraFleet' regime.

Mix the contents of one sachet with approximately 150ml of cold water and stir for two to three minutes before drinking, at the times listed overleaf. Do not worry if the solution becomes warm or hot – allow it to cool a little before drinking. Follow this with another full glass of water.

It is **important to drink two to three litres of clear fluid** during the preparation period which is required to flush your bowel of stool and to keep you hydrated. Drink at least one full glass of water every hour (250ml) from 1pm to 9pm the day before and then again after the second dose in the morning, until two hours before your appointment.

### **What to expect when taking bowel preparation**

Everybody responds differently to bowel cleansing. We advise you to remain in easy reach of a toilet as it causes multiple, often urgent, watery bowel movements. It can start working in as little as 30 minutes but may take up to three to four hours to start working in some people depending on your age, diet, if you have diabetes and whether you suffer from constipation. Your bowel motions on completion of the preparation should be a clear / yellowish watery consistency.

The CitraFleet may make you feel nauseated or sick, have abdominal bloating or cramps. Drinking plenty of fluid and walking around can help prevent this. The effects of the bowel preparation may give you a sore bottom, so we suggest using a barrier cream and soft flushable wipes.

If you are unable to tolerate the bowel preparation, vomit the contents or if by the morning of the procedure you have had little or no result in the toilet, please **Contact us** on the phone numbers of page 6 as it may not be possible to perform the procedure.

## CITRAFLEET - MORNING APPOINTMENT

<b>Suggested routine to follow the DAY BEFORE YOUR PROCEDURE</b>	
Breakfast 7-8am	Eat a light breakfast but <b>avoid</b> high fibre foods, fruit and vegetables. This will be the last solid meal until after your procedure. (See page 7)
8am <b>Stop eating and drink clear fluids</b>	<b>STOP EATING SOLID FOOD.</b> You can have water, squash, clear soups, jelly (yellow or green only), fizzy drinks, Lucozade, black tea and coffee ( <b>no milk</b> ). <b>Drink two to three litres of clear fluid during the fasting period.</b>
Lunch <b>Clear fluids only</b>	You can have clear soups or broth such as Bovril or Oxo. Continue to drink plenty of clear fluids throughout the day.
5-6pm	Mix the <b>FIRST</b> sachet of Citrafleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids.
Dinner <b>Clear fluids only</b>	You can have clear soups or broth such as Bovril or Oxo. Drink at least another litre of clear fluid before going to bed.
<b>Suggested routine to follow the DAY OF YOUR PROCEDURE</b>	
6am (or earlier if desired)	Mix the <b>SECOND</b> sachet of Citrafleet in a glass of water and drink it, even if you feel your bowel is empty. Drink a further 500ml of clear fluid up until two hours before your appointment.
Two hours	<b>STOP DRINKING FLUIDS.</b> Please don't worry about

before appointment	travelling to hospital after taking this dose as it clears the stool produced overnight only.
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## CITRAFLEET - AFTERNOON APPOINTMENT

Suggested routine to follow the DAY BEFORE YOUR PROCEDURE	
Breakfast	Eat a light breakfast but <b>avoid</b> high fibre foods, fruit and vegetables. (See page 7)
Lunch 12pm	Eat a light lunch but <b>avoid</b> high fibre foods, fruit and vegetables. This will be the last solid meal until after your procedure.
1pm <b>Stop eating and drink clear fluids</b>	<b>STOP EATING SOLID FOOD.</b> You can have water, squash, clear soups, jelly (yellow or green only), fizzy drinks, Lucozade and black tea or coffee ( <b>no milk</b> ). <b>Drink two to three litres of clear fluid during the fasting period.</b>
5 - 6pm	Mix the <b>FIRST</b> sachet of CitraFleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids.
Dinner <b>Clear fluids only</b>	You can have clear soups or broth such as Bovril or Oxo. Drink at least another litre of clear fluid before going to bed.
Suggested routine to follow the DAY OF YOUR PROCEDURE	
9am	Mix the <b>SECOND</b> sachet of CitraFleet in a glass of water and drink it, even if you feel your bowel is empty. Drink a further 500ml to 1 litre of clear fluid up until two hours before your appointment
Two hours before appointment	<b>STOP DRINKING FLUIDS.</b> Please don't worry about travelling to hospital after taking this dose as it clears the stool produced overnight only.

## ENHANCED CITRAFLEET - MORNING APPOINTMENTS

<p><b>Take two Senna tablets (7.5mg) at night for five nights before starting bowel prep</b></p>	
<p><b>Suggested routine to follow the DAY BEFORE YOUR PROCEDURE</b></p>	
<p>Breakfast 7-8am</p>	<p>Eat a light breakfast but <b>avoid</b> high fibre foods, fruit and vegetables. This will be the last solid meal until after your procedure. (See page 7)</p>
<p>8am <b>Stop eating Drink clear fluids</b></p>	<p><b>STOP EATING SOLID FOOD. Drink two to three litres of CLEAR FLUIDS ONLY</b> during the fasting period. See clear fluid examples on page 5 of this leaflet.</p>
<p>12pm</p>	<p>Mix the <b>FIRST</b> sachet of CitraFleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids.</p>
<p>5-6pm</p>	<p>Mix the <b>SECOND</b> sachet of CitraFleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids.</p>
<p>Dinner <b>Clear fluids only</b></p>	<p>You can have clear soups or broth such as Bovril or Oxo. Drink at least another litre of clear fluid before going to bed.</p>
<p><b>Suggested routine to follow the DAY OF YOUR PROCEDURE</b></p>	
<p>6am (or earlier if desired)</p>	<p>Mix the <b>THIRD</b> sachet of CitraFleet in a glass of water and drink it, even if you feel your bowel is empty. Drink a further 500ml of clear fluid up until two hours before your appointment.</p>
<p>Two hours before appointment</p>	<p><b>STOP DRINKING FLUIDS.</b> Please don't worry about travelling to hospital after taking this dose as it clears the stool produced overnight only.</p>



## ENHANCED CITRAFLEET - AFTERNOON APPOINTMENTS

<p><b>Take two Senna tablets (7.5mg) at night for five nights before starting bowel prep</b></p>	
<p><b>Suggested routine to follow the DAY BEFORE YOUR PROCEDURE</b></p>	
<p><b>Breakfast</b></p>	<p>Eat a light breakfast but <b>avoid</b> high fibre foods, fruit and vegetables. (See page 7)</p>
<p><b>Lunch</b> 11am–12pm</p>	<p>Eat a light lunch but <b>avoid</b> high fibre foods, fruit and vegetables. This will be the last solid meal until after your procedure.</p>
<p><b>12pm Stop eating Drink clear fluids</b></p>	<p><b>STOP EATING SOLID FOOD. Drink two to three litres of CLEAR FLUIDS ONLY</b> during the fasting period. See clear fluid examples on page 5 of this leaflet.</p>
<p><b>12.30pm</b></p>	<p>Mix the <b>FIRST</b> sachet of CitraFleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids.</p>
<p><b>5.30pm</b></p>	<p>Mix the <b>SECOND sachet</b> of CitraFleet in a glass of water until dissolved and drink it followed by a glass of water. Continue drinking clear fluids</p>
<p><b>Dinner</b> <b>Clear fluids only</b></p>	<p>You can have clear soups or broth such as Bovril or Oxo. Drink at least another litre of clear fluid before going to bed.</p>
<p><b>Suggested routine to follow the DAY OF YOUR PROCEDURE</b></p>	
<p><b>9am</b></p>	<p>Mix the <b>THIRD</b> sachet of CitraFleet in a glass of water and drink it, even if you feel your bowel is empty. Drink a further 500ml to 1 litre of clear fluid up until two hours before your appointment</p>
<p><b>Two hours before appointment</b></p>	<p><b>STOP DRINKING FLUIDS.</b> Please don't worry about travelling to hospital after taking this dose as it clears the stool produced overnight only.</p>

## Additional services

### Patient Advice and Liaison Service (PALS)

PALS can offer you advice and information when you have comments or concerns about our services or care. You can contact the PALS team on the advisory telephone line Monday, Tuesday, Thursday and Friday from 2pm to 5pm.

A Walk-in service is available:

Monday, Tuesday and Thursday between 10am and 4pm

Friday between 10am and 2pm.

Please contact PALS in advance to check if there are any changes to opening times.

The Walk-in and Advisory telephone services are closed on Wednesdays.

PALS is based within the hospital in the ground floor main corridor between Grosvenor and Lanesborough Wing.

**Tel:** 020 8725 2453 **Email:** [pals@stgeorges.nhs.uk](mailto:pals@stgeorges.nhs.uk)

### NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

**Web:** [www.nhs.uk](http://www.nhs.uk)

### NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones. **Tel:** 111



### AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website ([www.accessable.co.uk](http://www.accessable.co.uk)). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.