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What is an Endoscopic Mucosal Resection (EMR)?

Endoscopic mucosal resection (EMR) is the terminology used for the specialized technique of removing large polyps. While this term can be used for polyps with a stalk (or peduncle) it is more often used to describe removal of flat (sessile), large polyps.

What is a colonic polyp?

Colonic polyp is an abnormal growth in the inner lining of the large bowel. These arise as a result of abnormal cell division of the lining of the colon. Colonic polyps are common and it is estimated about 25% of women and 30% of men over the age of 50 years develop polyps

Why is resection important?

There are two main types of polyps – adenomatous and hyperplastic. While hyperplastic polyps do not develop into cancer, adenomatous polyps can turn cancerous eventually if left behind. Colonoscopy and resection (removal) of polyps is the only known method of prevention of bowel cancer

How is EMR performed?

Following careful inspection of the polyp and defining its margins, a special solution (combination of gelofusin – a fluid given in intravenous hydration, combined with Indigo Carmine – a harmless blue dye) is injected underneath the polyp to raise it and separate the polyp from the deeper layers of the colon wall. The blue dye is helpful in defining the margins of the polyp more effectively as the polyp itself does not take up this agent. It also helps to define the deeper muscle layer and identify the depth of the resection.

Following the lifting of the polyp, a metal lasso (snare) is used to grab the polyp or part of it and electric current is used to cut the piece off. Smaller (<2cm) polyps can be resected en-bloc while larger polyps need to be resected piecemeal

How are you prepared?

Prior to the EMR you will need to collect the bowel preparation materials from your chemist. You must fast (no foods or fluids) completely for **3 hours** before your admission time. (Please see over for complete instructions).

What do I do with my current medications?

You should cease:

- Iron tablets **five days prior**.
- Drugs to stop diarrhoea **five days prior**
- Over the counter blood thinners such as Aspirin and Clopidogrel (Plavix) **seven days prior (upon advice and confirmation from your General Practitioner or Cardiologist)**.
- Other prescription blood thinners such as warfarin, Eliquis and Pradaxa **two days prior to your procedure (upon advice and confirmation from your General Practitioner or Cardiologist)**.
- **N.S.A.I.D's (arthritis tablets) five days prior (upon advice and confirmation from your General Practitioner)**.

You should also inform Riverview Endoscopy if you have heart disease or have a pacemaker implanted or if you are sensitive (allergic) to any drug or other substances.

Is it safe and what are the risks?

The two main immediate risks of EMR are bleeding and bowel perforation. Bleeding can be encountered in up to 3-4% of the EMR procedures. Bleeding can be encountered during the procedure and there are different methods to treat this including diathermy and metal clip placement. Post procedure bleeding can occur from anytime up to 12 days from the day of the procedure; however, the highest risk of bleeding is in the first 3 days after the procedure. Bowel perforation is very rare and the available studies quote the risk to be less than 1:1000; minor perforations can be treated during the procedure with clip application and will require hospital admission and intravenous antibiotics. Very rarely perforations might require surgery and prolonged ICU and hospital admission.

Complications of sedation are uncommon. Rarely, however, in patients with severe heart or chest disease serious sedation reactions can occur. Patients with such problems must inform the doctor prior to their procedure. Special precautions are taken to avoid complications including administering oxygen during the procedure and monitoring oxygen levels in the blood, and monitoring the pulse rate.

What is the long-term outcome?

Broadly speaking, approximately 95% of large polyps can be removed with EMR technique. There is a risk of recurrence of large polyps following EMR. This is due to microscopic foci of polyp tissue being left behind at the time of the EMR which cannot be detected. The overall risk of recurrence of large (>2cm) polyps is approximately 4% at 18 months of follow up. Therefore, we recommend repeat colonoscopy to inspect the resection site initially at 3-6 months post EMR and at 18 months post EMR. Recurrent polyp tissue can be easily removed during follow up colonoscopy; it is extremely rare to require surgery for recurrent polyp following successful EMR.

What surveillance is recommended after the resection?

Surveillance colonoscopy is recommended 3-6 months and 18 months post EMR. Provided no recurrence is noted at the 18 month follow up, further surveillance colonoscopy can generally be done at 2-3 years afterwards. There are multiple factors that determine this follow up interval. You will be advised on the follow up interval following careful consideration of your specific circumstances.

What happens after my procedure?

The sedative pain-killer you are given before the procedure is very effective in reducing any discomfort. However, it may also affect your memory for some time afterwards. Even when the sedative appears to have worn off, you may find you are unable to recall details of your discussion with your doctor. For this reason a relative or friend should come with you if possible. It is unsafe to drive yourself home. **You must not drive or operate machinery or make major decisions for 12 hours after the EMR.** You are usually able to return home on the same day.

Following resection, you will be asked to remain on a fluid diet for 24 hours (specific instructions will be provided to you on the day of the procedure). If you are on blood thinners, you will be asked to remain off your blood thinning medications for some time. You will be advised of the specific duration following the procedure.

If, upon returning home, you have any severe abdominal pain, bleeding from the back passage, fever, or other symptoms that cause you concern, you should contact the Hospital, your General Practitioner or attend your closest emergency department immediately.

What happens when I arrive on the day?

Report to the Hollywood Hospital Gastroenterology Department at the time advised. Please bring any relevant test results or X-rays and your Medical Insurance and Medicare details.

In most instances health funds accept Riverview Endoscopy accounts for direct no-gap billing. If not, you will be given an invoice for the doctor's services. Most health funds require you to pay a hospital excess which must be paid on the day. If biopsies are taken you will also receive an account from the Pathologist. For most procedures an Anaesthetist is also present, where possible, this is usually also billed as a no-gap service direct to your health fund.

**Please see next page for instructions on preparing for your procedure.
Please read the instructions carefully.**

EMR PREPARATION INSTRUCTIONS

- **Note:** This preparation uses the following which are NOT suitable for patients with serious kidney problems: **PICOLAX** or **PICOPREP** or **PICOSALAX** plus **COLONLYTELY**. If you do have kidney problems, please call Riverview Endoscopy for an alternative preparation regime.
- It is recommended that certain medications be ceased prior to your procedure. Please refer to page one for further instructions.
- You should have another responsible adult with you at home the night before the test while carrying out your preparation.

What you will need

- **Two** sachets of **PICOLAX** or **PICOPREP** or **PICOSALAX**, and
- **Two** sachets of **COLONLYTELY** bowel preparation from your chemist.

Please note the times on the box are different to those below. If you are not able to obtain the Colonlytely at the time of your procedure, please purchase one sachet of Glycoprep C.

INSTRUCTIONS FOR MORNING PROCEDURES

No solid food is to be consumed the day before your procedure. You may have a variety of clear liquids.

Examples of clear liquids are:

- Homemade clear soup (broth only)
- Miso soup (no solids)
- Diluted fruit juice (no pulp)
- Cordials, clear jellies, low calorie soft drinks, (no red, purple or green colours)
- Water, soda water, tonic water, flavoured water
- Black tea, black coffee, herbal teas
- Bonox/Vegemite/Promite/Marmite
- Rehydration Solutions e.g. Hydralyte, Gastrolyte, Gatorade

DO NOT HAVE: milk or milk products, pulp, pips or seeds, or green, red or purple food colouring.

DO NOT drink ONLY water, have a range of different clear fluids.

To prepare your bowel

a) 2.00pm the day before the procedure: Add the entire contents of ONE sachet of PICOLAX or PICOPREP or PICOSALAX to half a glass (125mL) of water. Stir until stops bubbling. Drink the mixture gradually but completely. You must follow this with plenty of clear fluids (at least *one Litre*) to prevent dehydration and to flush out the bowel.

b) 6.00pm the day before the procedure: Add the entire contents of ONE sachet of PICOLAX or PICOPREP or PICOSALAX to half a glass (125mL) of water. Stir until stops bubbling. Drink the mixture gradually but completely. You must follow this with plenty of clear fluids (at least *one Litre*) to prevent dehydration and to flush out the bowel. Make up both sachets of the COLONLYTELY solution by mixing with 2 litres of water in a jug and then chill the mixture in the fridge.

c) Before going to bed on the evening before, drink 1 Litre of the COLONLYTELY solution prepared earlier.

d) 4:30 am on the day of the procedure drink the remaining 1 Litre of the COLONLYTELY solution prepared earlier.

You may continue to drink clear fluids up until 3 hours before your appointment.

Your 4:30am COLONLYTELY dose is usually your last drink.

INSTRUCTIONS FOR AFTERNOON PROCEDURES

You may eat breakfast the MORNING OF THE DAY PRIOR to your procedure date.

Acceptable meals include any combination of the following:

- Cornflakes, rice bubbles or similar with skim milk.
- White toast (crusts removed) with butter or spread (excluding peanut, or nut butter).
- Fried, boiled or poached eggs.
- Pancakes or waffles with syrup.
- Tea or coffee with skim milk, pulp free fruit juice.

DO NOT HAVE: milk or milk products, pulp, pips or seeds, or green, red or purple food colouring.

DO NOT drink ONLY water, have a range of different clear fluids.

PLEASE AVOID all fruit, vegetables, muesli, oats, nuts, seeds and high fibre breads and cereals.

You may continue to eat until 10:00am THE DAY PRIOR to your procedure date.

No solid food is to be consumed after 10:00am the day before your procedure. You may have a variety of clear liquids.

Examples of clear liquids are:

- Homemade clear soup (both only)
- Miso soup (no solids)
- Diluted fruit juice (no pulp)
- Cordials, clear jellies, low calorie soft drinks, (no red, purple or green colours)
- Water, soda water, tonic water, flavoured water
- Black tea, black coffee, herbal teas
- Bonox/Vegemite/Promite/Marmite
- Rehydration Solutions e.g. Hydralyte, Gastrolyte, Gatorade

To prepare your bowel

a) 6.00pm the day before the procedure: Add the entire contents of ONE sachet of PICOLAX or PICOPREP or PICOSALAX to half a glass (125mL) of water. Stir until stops bubbling. Drink the mixture gradually but completely. You must follow this with plenty of clear fluids (at least *one Litre*) to prevent dehydration and to flush out the bowel.

b) 9.00pm the day before the procedure: Add the entire contents of ONE sachet of PICOLAX or PICOPREP or PICOSALAX to half a glass (125mL) of water. Stir until stops bubbling. Drink the mixture gradually but completely. You must follow this with plenty of clear fluids (at least *one Litre*) to prevent dehydration and to flush out the bowel. . Make up both sachets of the COLONLYTELY solution by mixing with 2 litres of water in a jug and then chill the mixture in the fridge

c) 6.00am on the morning of the procedure drink 1 Litre of the COLONLYTELY solution prepared the previous night.

d) 9.00am on the morning of the procedure drink the remaining 1 Litre of the COLONLYTELY solution prepared earlier.

You may continue to drink clear fluids up until 3 hours before your appointment

If you have any questions regarding the preparation, please don't hesitate to call Riverview Endoscopy on 9385 6938