

WHEN WILL I RECEIVE MY RESULTS?

Your doctor will speak with you about the success of the procedure once you are awake. Taking into consideration all patients referred to CIE for EMR, the success rate exceeds 95 percent. Occasionally, a polyp that infiltrates deeper tissue cannot be removed endoscopically. This will be determined during your procedure and can usually only be detected at that time. It will then be necessary for you and your referring doctor to make a decision about other options.

The biopsy results (microscopic assessment of the polyp or lesion) will be available in approximately five to seven days and will be forwarded to your referring doctor. Follow up with him or her for your results. It will be necessary for you to have some follow up, either with us or with your referring doctor -- the frequency of which will be determined by the biopsy results. Once you have been treated successfully and the polyp is completely removed, you will return to your referring doctor for routine follow-up examinations.

IMPORTANT REMINDER:

The preceding information is intended only to provide you with general information and does not serve as a definitive basis for diagnosis or treatment in any particular case. It is very important to consult with your doctor about your specific condition.

WHAT TYPE OF EMR RESEARCH STUDIES ARE CONDUCTED AT THE CIE?

The CIE is internationally renowned for the work performed on our unit. A number of studies are currently underway to improve our understanding and even further improve outcomes for patients with large polyps. You are likely to be asked to participate in one of these research studies by our doctors. These studies are all approved by the Florida Hospital Institutional Review Board and do not carry any additional risks to you as a patient. The studies are voluntary, and if you choose not to participate, you will still receive the same excellent care.

Our active research studies on EMR include:

- Prophylactic octreotide to prevent post-duodenal EMR and ampullectomy bleeding
- Safety of endoscopic resection of large colorectal polyps: A multicenter randomized trial
- Reduction in symptomatic esophageal stricture formation post-two-stage complete Barrett's excision for high-grade dysplasia or early adenocarcinoma with short-term steroid therapy: A randomized double-blinded, placebo-controlled, multicenter trial
- Comparison of clinical and financial outcomes between EMR and surgery for treatment of benign colon polyps
- Comparison of clinical and financial outcomes between EMR and surgery for treatment of Barrett's high-grade dysplasia



Understanding Endoscopic Mucosal Resection

(EMR)



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KNOWING ENDOSCOPIC MUCOSAL RESECTION (EMR)

You have been referred by your physician to the Florida Hospital Center for Interventional Endoscopy (CIE) for a procedure known as endoscopic mucosal resection (EMR). This is a technique by which large, flat polyps or lesions can be removed from the surface of the bowel. Most of these polyps are located in the colon, but sometimes the duodenum (first part of the small intestines), stomach or the esophagus.

WHAT IS EMR?

EMR is a technique that allows for the safe endoscopic removal of large (more than 20 millimeters in size), flat polyps (shown in Figure 1).

Until recently, surgery was required to remove these types of polyps. Surgery is more invasive and is usually associated with a three to seven-day hospital stay. EMR can often be accomplished as an outpatient procedure, or with one day of inpatient observation. The technique involves injection of a solution beneath the polyp (shown in Figure 2), lifting the mucosal layer away from deeper tissues and then removing the polyp using an endoscopic device called a snare (shown in Figure 3).



Figure 1: Flat colon polyp

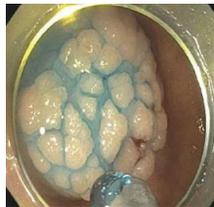


Figure 2: Polyp elevated with injection of solution



Figure 3: Image of colon after EMR

The injection creates a safety zone or cushion, thereby allowing the safe removal of the polyp. Removing large polyps without such an injection is associated with a very significant risk of perforation (making a hole in the bowel). Research done at the Florida Hospital CIE has shown that EMR is equally effective to surgery and results in significant cost savings and a much shorter recovery period.

WHAT HAPPENS DURING THE PROCEDURE?

If you require an EMR by colonoscopy, you will take the bowel preparation as recommended by our office schedulers. For all endoscopic procedures, you will not eat anything after dinner from the previous evening. You will be sedated well and will not be aware of what is happening during the procedure.

Most patients who undergo EMR recover after the procedure as they would after any endoscopy. They are usually not aware that a more complex intervention has taken place. Occasionally, there is a small amount of abdominal pain (particularly if the EMR was extensive), which usually settles with medication. After clinical review, most patients are discharged to remain on clear fluids that night and resume a normal diet the following day. Some patients may be admitted for overnight observation after the procedure.

WHAT ARE THE RISKS OF EMR?

Conventional endoscopy (or colonoscopy) is a very safe procedure. Complications are very rare, at less than one in 1,000 examinations. However, complications can occur and include the following:

- Intolerance of the bowel preparation if you are undergoing colonoscopy (some patients develop vomiting or headaches)
- Reaction to sedatives (very uncommon, but may be of concern in patients with severe heart or lung disease)
- Perforation in the bowel
- Major bleeding from the bowel (can occur as a result of the polyp being removed and can potentially occur up to five days after the procedure)

While safe, EMR carries an approximate ten-fold increase in risk of complications compared to conventional endoscopy. The risk of perforation is approximately 1 in 200 cases. Should this occur, it is almost always recognized on the day of the procedure, and surgery, if required, is performed the same day, removing the abnormal area and repairing the defect. Oftentimes, the perforation can be repaired at endoscopy itself by placement of clips or placing a suture to close the defect. The only other option for

removing pre-cancerous growth from the bowel would be to proceed directly to surgery. The vast majority of patients who undergo EMR have their procedure completed without complications.

Post-EMR bleeding occurs in about two to three percent of patients and usually within the first three to five days. Usually it is mild, but to the patient, it may seem significant. If you had a polyp removed at colonoscopy and you only see blood mixed in with your stool, but these are of normal frequency, then this may not be of serious concern and will settle in a day or two. However, if you are passing blood only each half hour to one hour, over several hours, then this will usually require medical attention at your local hospital (preferably at Florida Hospital Orlando, if you are still nearby). This type of bleeding usually settles just with bowel rest and intravenous fluids. Uncommonly, a further colonoscopy and treatment of the bleeding site may be required.

If you had an EMR performed during upper endoscopy and you are vomiting blood, or if you are passing a lot of blood with your bowel movements, then this will require medical attention at your local hospital (or at Florida Hospital Orlando, if you are still nearby). While a majority of this bleeding may settle with just bowel rest and intravenous fluids, rarely, blood transfusion and a repeat endoscopy may be required to treat the bleeding site.

WHAT SHOULD I KNOW ABOUT MEDICATIONS AND BLOOD THINNERS?

Please follow the detailed instructions provided by our office schedulers. It is preferable that use of all blood thinners be discontinued before the procedure for the instructed amount of time.

- Warfarin must be discontinued for five doses and usually recommenced one night after the procedure.
- Clopidogrel (Plavix) must be discontinued for seven days before and five days after the procedure.

Please contact the scheduling office staff for details on other types of blood thinners that you may be taking. Sometimes we may have to get written permission from your doctor (cardiologist) before stopping blood thinners.