



PATIENT & CAREGIVER EDUCATION

About Your Endoscopic Submucosal Dissection (ESD) with a Colonoscopy or Sigmoidoscopy

This information will help you get ready for your endoscopic submucosal dissection (ESD) procedure at Memorial Sloan Kettering (MSK). Read through this resource at least once before your procedure and use it as a reference in the days leading up to your procedure.

An ESD is a procedure to remove tumors in your digestive tract. Your digestive tract is made up of your esophagus (food pipe), stomach, small intestine, large intestine (colon), and rectum (see Figure 1).

Your ESD will be done while you have a colonoscopy or sigmoidoscopy procedure. This means that your doctor will use a flexible tube called a colonoscope or sigmoidoscope to see inside your anus, colon, and rectum and remove the tumors you have (see Figure 1).

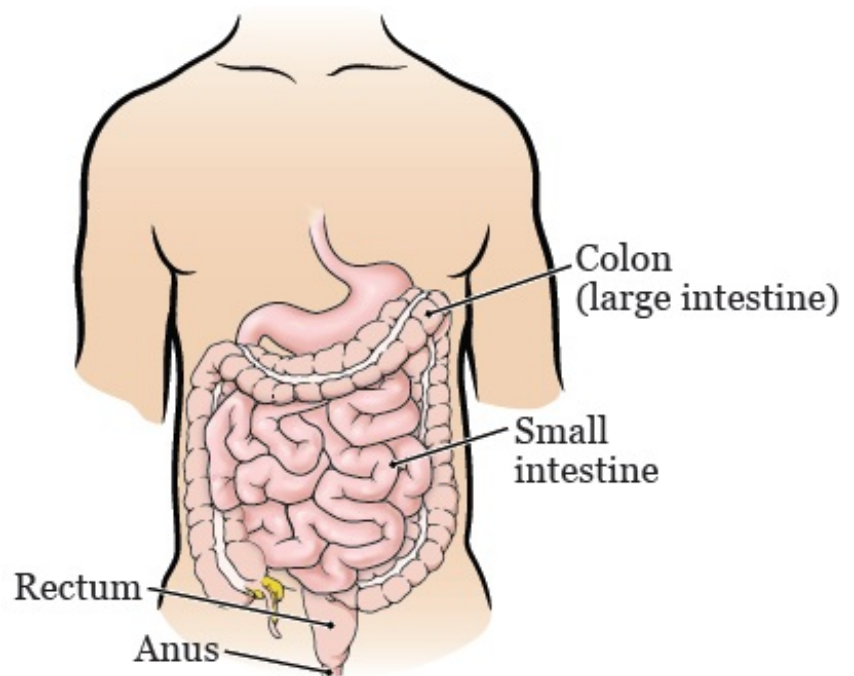


Figure 1. Digestive system.

Your healthcare provider will talk with you about what to expect and how to get

ready for your ESD. Follow these instructions carefully.

2 Weeks Before Your Procedure

Ask about your medications

You may need to stop taking some of your medications before your procedure. Talk with your doctor about which medications are safe for you to stop taking. We have included some common examples below.

Do not stop taking any of your medications without talking with your doctor first.

Anticoagulants

If you take a blood thinner (medication that affects the way your blood clots), ask the doctor who prescribes it for you when you should stop taking it, and how many days until you need to start taking it again. Be sure to share this information with the doctor that will perform your ESD.

Examples of Blood Thinners			
apixaban (Eliquis®)	dalteparin (Fragmin®)	meloxicam (Mobic®)	ticagrelor (Brilinta®)
aspirin	dipyridamole (Persantine®)	nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Advil®) or naproxen (Aleve®)	tinzaparin (Innohep®)
celecoxib (Celebrex®)	edoxaban (Savaysa®)	pentoxifylline (Trental®)	warfarin (Coumadin®)
cilostazol (Pletal®)	enoxaparin (Lovenox®)	prasugrel (Effient®)	
clopidogrel (Plavix®)	Fondaparinux (Arixtra®)	rivaroxaban (Xarelto®)	
dabigatran (Pradaxa®)	heparin (shot under your skin)	sulfasalazine (Azulfidine®, Sulfazine®)	

There are others, so check with your doctor if you're not sure.

Medications for diabetes

If you take insulin or other medications for diabetes, you may need to change the dose. Ask the doctor who prescribes your diabetes medication what you should do the day before and the morning of your procedure.

If you take metformin (such as Glucophage® or Glumetza®) or a medication that contains metformin (such as Janumet®), don't take it the day before or the day of your procedure.

Get a letter from your doctor, if needed

- If you have an automatic implantable cardioverter-defibrillator (AICD), you'll need to get a clearance letter (a letter that says you can have the procedure) from your cardiologist (heart doctor) before your procedure.
- If you've had chest pain, dizziness, trouble breathing that's new or worse, or have fainted in the last 6 weeks, you'll need to get a clearance letter from your cardiologist, if you have one, or your primary care doctor before your procedure.

Your MSK doctor's office must have your clearance letter at least 5 days before your procedure.

1 Week Before Your Procedure

Stop taking certain medications

Aspirin

If you take aspirin, ask the doctor that prescribes it to you if you can stop taking it 1 week before your procedure. Aspirin and medications that contain aspirin can cause bleeding. For more information, read *Common Medications Containing Aspirin and Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs)* (www.mskcc.org/pe/common_meds).

If your doctor doesn't want you to stop taking aspirin, tell the doctor doing your ESD procedure at least 10 days before the procedure.

Arrange for someone to take you home

You must have a responsible care partner take you home after your procedure. Make sure to plan this before the day of your procedure.

If you don't have someone to take you home, call one of the agencies below. They will send someone to go home with you. There's usually a charge for this service, and you will need to provide transportation.

Agencies in New York

Partners in Care: 888-735-8913

Caring People: 877-227-4649

Agencies in New Jersey

Caring People: 877-227-4649

Buy supplies

- 4 (5 mg) tablets of bisacodyl (Dulcolax®). These are usually sold as a box of 10 tablets.
- 1 (238 gram) bottle of polyethylene glycol (MiraLAX®).
- 64 ounces of any clear liquid that isn't red, purple, or orange.
 - A sports drink like Gatorade® or Powerade® is a good choice. Sports drinks will help replace electrolytes that you will lose during the bowel preparation.
 - If you have diabetes, be sure to get sugar-free clear liquids.

To see if you need any additional supplies, answer the questions below:

- Do you tend to be constipated? This can mean that you have fewer bowel movements (poop) than what's usual for you, or have fewer than 3 bowel movements per week.
- Do you take narcotic (opioid) medications such as fentanyl (Duragesic®, Subsys®) morphine (DepoDur®, Duramorph, MS Contin®), hydrocodone (Vicodin®), or oxycodone (Oxycontin®, Percocet®)? If you're not sure, ask your healthcare provider.

- Have you had a colonoscopy with a poor prep in the past?

If you answered yes to any of the questions, you must also buy the following supplies:

- 3 (17 gram) doses of MiraLAX (for a total of 51 grams).
 - You can either buy 1 additional small bottle or the packets.
- Additional liquids for a full liquid diet.
 - Examples of what you can drink are listed in the section called “2 Days Before Your Procedure.”

5 Days Before Your Procedure

Iron supplements

If you take an iron supplement, you'll need to stop taking it 5 days before your procedure. Iron supplements can cause color changes in your stool (poop), which can make it harder for your doctor to see your colon clearly.

3 Days Before Your Procedure

Avoid certain foods

You should follow a low-fiber diet starting 3 days before your colonoscopy. During this time, do not eat:

- Raw (fresh) fruits and vegetables.
- Whole kernel corn, including canned corn
- Whole grains (such as oatmeal, brown rice, quinoa, or wheat bread)
- Seeds (such as poppy or sesame)
- Nuts

Talk with your endoscopy nurse

A few days before your procedure, you'll get a telephone call from an endoscopy nurse. They will review the instructions in this guide with you and ask you questions about your medical history. The nurse will also review your medications and tell you which to take the morning of your procedure. Use the space below to write them down.



2 Days Before Your Procedure

If you aren't usually constipated, do not take narcotic (opioid) medications, or haven't had a colonoscopy with poor prep in the past, you don't need to start your clear liquid diet until the day before your procedure. However, continue to avoid raw fruits and vegetables, beets (cooked or raw), red fruit juices, whole kernel corn, grains, seeds, and nuts. Skip to the next section "The Day Before Your Procedure."

If you're usually constipated, take narcotic medications, or have had a colonoscopy with a poor prep in the past:

- Take 1 capful (17 grams) of MiraLAX mixed with 8 ounces of liquid at breakfast, lunch, and dinner.
- Follow a full liquid diet, including:
 - Yogurt (without any pieces of fruit)
 - Fruit juices without pulp
 - Soda
 - Broth or strained cream soups
 - Nutritional supplements such as Ensure® or Boost®
 - Ice cream and fruit ices (without any pieces of fruit)

The Day Before Your Procedure

Prepare your MiraLAX bowel preparation

On the morning of the day before your procedure, mix all 238 grams of the MiraLAX powder with 64 ounces of a room temperature clear liquid until the MiraLAX powder dissolves. Once the MiraLAX is dissolved, you can put the mixture in the refrigerator. Many people find it tastes better chilled.

Don't mix the MiraLAX earlier than the morning of the day before your procedure.

Follow a clear liquid diet

You will need to follow a clear liquid diet the day before your procedure. Examples of clear liquids are listed in the table in this section.

- Don't eat any solid foods.
- Don't drink anything red, purple, or orange.
- Make sure to drink plenty of liquids in addition to water, coffee, and tea. This helps to make sure that you get enough calories and is an important part of your colonoscopy preparation. Try to drink at least 1 (8-ounce) glass every hour while you're awake.
- If you have diabetes, you should drink only sugar-free clear liquids and check your blood sugar level often. If you have any questions, talk with your healthcare provider.

Clear Liquid Diet		
	Drink	Do Not Drink
Soups	<ul style="list-style-type: none">• Clear broth, bouillon, or consommé	<ul style="list-style-type: none">• Any products with particles of dried food or seasoning
Sweets	<ul style="list-style-type: none">• Gelatin, such as Jell-O®• Flavored ices• Hard candies, such as Life Savers®	<ul style="list-style-type: none">• Anything red, purple, or orange
Drinks	<ul style="list-style-type: none">• Clear fruit juices, such as apple, white cranberry, lemonade, or white grape	<ul style="list-style-type: none">• Juices with pulp• Nectars

- Soda, such as 7-Up[®], Sprite[®], ginger ale, or seltzer
- Gatorade[®]
- Black coffee
- Tea
- Water

- Milk or cream
- Alcoholic beverages
- Anything red, purple, or orange

Note the time of your procedure

A staff member from the hospital will call you after 12:00 PM the day before your procedure. The staff member will tell you what time you should arrive at the hospital.

If you're scheduled for your procedure on a Monday, you will be called on the Friday before. If you don't receive a call, call your doctor's office. If you need to cancel your procedure, call the doctor who scheduled it for you.

Start your bowel preparation

Step 1: Take 2 Dulcolax

At **4:00 PM** on the day before your procedure, take 2 Dulcolax tablets by mouth with a glass of water.

Step 2: Drink the MiraLAX mixture

At **4:15 PM**, drink 1 (8-ounce) glass of the mixture. Do this every 15 minutes for a total of 4 times. Drink the mixture at **4:15 PM**, **4:30 PM**, **4:45 PM**, and **5:00 PM**.

- When you're finished, half of the MiraLAX mixture will be left. Save the rest of it in the refrigerator for the second half of your preparation.
- Bowel movements usually begin within 1 hour of drinking the first dose, but it may take longer for some people.
 - Don't worry if you don't start having bowel movements after drinking the first half of the MiraLAX. Continue to drink liquids and start the second half of the MiraLAX as instructed.
- Apply petroleum jelly (Vaseline[®]) or A & D[®] ointment to the skin around your anus after every bowel movement. This helps prevent irritation caused by

having loose stools and wiping often.

- Continue to drink clear liquids to stay hydrated and flush out your colon.

Step 3 (If you were told to arrive for your procedure before 11:00 AM):

If you were told to arrive for your procedure before 11:00 AM, follow these instructions the night before your procedure:

At **11:00 PM**, take 2 Dulcolax tablets by mouth with a glass of water. Then, start drinking the second half of the MiraLAX mixture. Drink 1 (8-ounce) glass every 15 minutes until you finish the bottle.

- If you don't start having bowel movements after 2 to 3 hours of drinking the second half of the MiraLAX, call 212-639-2000 and ask to speak to the GI fellow on call.
- You can continue to drink clear liquids until 4 hours before your scheduled arrival time.
- Don't eat anything until after your procedure.

The Day of Your Procedure

Step 3 (If you were told to arrive for your procedure at 11:00 AM or later):

If you were told to arrive for your procedure at 11:00 AM or later, follow these instructions the morning of your procedure:

At **6:00 AM**, take 2 Dulcolax tablets by mouth with a glass of water. Then, start drinking the second half of the MiraLAX mixture. Drink 1 (8-ounce) glass every 15 minutes until you finish the bottle.

- If you don't start having bowel movements after 2 to 3 hours after drinking the second half of the MiraLAX mixture, call 212-639-2000 and ask to speak to the gastrointestinal (GI) fellow on call.
- You can continue to drink clear liquids until 4 hours before your scheduled

arrival time.

- Don't eat anything until after your procedure.

Things to remember:

- Take only the medications you were told to take the morning of your procedure. Take them with a few sips of water.
- Don't put any lotions, creams, or powder on your chest or arms.
- Remove any jewelry, including body piercings.
- Leave all valuables, such as credit cards and jewelry, at home. There won't be lockers available to store your valuables in.
- If you wear contacts, wear your eyeglasses instead.

What to bring

- A list of the medications you take at home, including patches and creams.
- Your rescue inhaler (such as albuterol (Ventolin®) for asthma), if you have one.
- A case for your eyeglasses.
- Your Health Care Proxy form, if you have completed one.
- If you have an implanted pacemaker or cardioverter-defibrillator (AICD), bring your wallet card with you.

Where to go

Your procedure will take place at the following location:

Endoscopy Suite at Memorial Hospital (MSK's main hospital)

1275 York Avenue (between East 67th and East 68th Streets)

New York, NY 10065

Take the M elevator to the 2nd Floor. Enter the Endoscopy Suite through the glass doors.

What to expect

When it's time for your procedure, you'll be brought into the procedure room and helped onto a procedure table. You'll be attached to equipment to monitor your heart, breathing, and blood pressure. You'll also receive oxygen through a thin tube that rests below your nose. A mouth guard will be placed over your teeth to protect them.

Your nurse or anesthesiologist will place an intravenous (IV) line into a vein, usually in your arm or hand. You'll get anesthesia through your IV, which will make you fall asleep. Once you're asleep, your doctor will start the procedure.

Your doctor will place a colonoscope or sigmoidoscope into your rectum. The scope is connected to a video monitor. This allows your doctor to see the inside of your colon. Your doctor will use air and fluid to move the scope along the length of your colon while looking for anything unusual on the video monitor. Then they will use the scope to remove any tumors and then remove the scope. Figure 2 shows the tumor removal process.

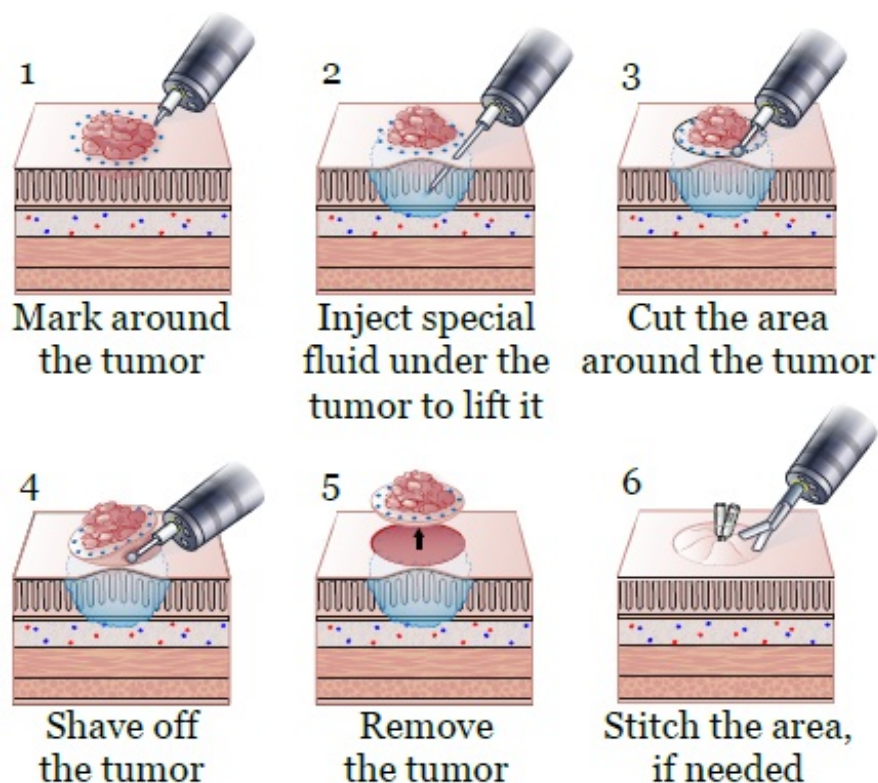


Figure 2. Tumor removal process.

Your procedure usually takes 1 to 3 hours, but sometimes may be longer.

After Your Procedure

When you wake up, you'll be in the Post-Anesthesia Care Unit (PACU). Your nurse will continue to monitor your heart, breathing, and blood pressure. You'll need to stay in the hospital overnight so your nurse can monitor you. You'll move to an inpatient bed when one is available.

If you don't have any issues overnight, you'll be able to leave the hospital the next day.

At home

- For the first 7 days after your procedure:
 - Don't drink alcohol.
 - Don't do any strenuous exercise (such as jogging and tennis).
 - Don't lift anything heavier than 10 pounds (4.5 kilograms).
 - Try to stay local, and don't travel long distances, such as outside of the country.
- It's normal for your bowel movements to be irregular or different from your usual habits. This may last for up to a week after your procedure.
- It's normal to have a small amount of bleeding from your rectum. There should be no more than a few drops of blood, and the bleeding should stop within 24 hours after your procedure.

Most people can go back to work 5 days after having this procedure, but everyone is different, so it may be shorter or longer for you. If you need to do a lot of heavy lifting at your job, talk with your doctor before going back to work.

Follow-up care

You'll have a follow-up visit with your doctor 2 weeks after your procedure. During

this visit, your doctor will talk with you about your results and go over a treatment plan.

Call Your Doctor or Nurse If You Have:

- A fever of 101 °F (38.3 °C) or higher
- Intense pain, hardness, or swelling in your abdomen (belly)
- Blood in your vomit (throw up)
- Bleeding from your anus for more than 24 hours
- Weakness, faintness, or both
- Any other questions or concerns

If you have chest pain or trouble breathing, call 911 or go to your nearest emergency room.

Contact Information

If you have any questions or concerns, call Dr. Makoto Nishimura's office at 212-639-6029. You can reach a staff member Monday through Friday from 9:00 AM to 5:00 PM. After 5:00 PM, during the weekend, and on holidays, call 212-639-2000 and ask for the GI doctor on call.

For more resources, visit www.mskcc.org/pe to search our virtual library.

About Your Endoscopic Submucosal Dissection (ESD) with a Colonoscopy or Sigmoidoscopy - Last updated on July 25, 2019

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