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GASTROENTEROLOGY AND HEPATOLOGY

COLONOSCOPY SCREENING

Colon cancer is the 2nd most common cause of cancer death in both men and women, 2nd to breast in women, and prostate in men. There are over 150,000 cases per year and 60,000 deaths. One out of 25 men and women over the age of 50 will develop colon cancer. It is virtually the only preventable cancer, because the usual form of colon cancer arises from benign tumors called polyps. If one looks into the colon and finds and removes these polyps, then their transformation to cancer is eliminated. The incidence of colon cancer starts to rise at age 40, rises significantly after age 50, and screening of healthy people is recommended.

There are various methods to examine part or all of the colon. Flexible sigmoidoscopy covers the lower 2 feet of colon, an area where up to 45% of polyps and cancers occur. Colonoscopy examines the entire 4-5 feet of colon and is the recommended method to screen the colon for polyps. Barium Enema (BE) and CT Colonography (Virtual Colonoscopy) are two types of X-ray exams that evaluate the entire colon. Both require the same clean out preparation as a colonoscopy but are not as accurate and cannot remove polyps during the exam. CT Colonography can detect growths that are at least 7mm in size and the exam has not been approved for screening unless colonoscopy has failed.

All insurance plans cover colonoscopy if there is a symptom or finding that makes the exam "medically necessary" such as rectal bleeding or diarrhea. Virtually all insurance plans and certain employers through their employee wellness benefits cover "screening colonoscopy" for healthy individuals, typically those age 50 and over. Those with a family history of colon cancer may benefit from screening as early as 40 years of age or earlier, and some evidence suggests women should start screening at age 45.

The preparation is an entire day of clear liquids such as clear soup, clear juices and jello, and two doses of a laxative preparation. The clear liquid diet typically starts the morning of the day before the procedure, and continues until four hours prior to arrival. No fluids are taken starting four hours prior to the arrival time. If there is any history of a "sluggish" bowel habit or constipation, or if one commonly takes a "colon cleanse" supplement, the preparation should be slightly more aggressive and you should make sure we know this.

In the recent past the most commonly used laxative was "Fleet's Phosphosoda", a

concentrated salty tasting solution of sodium phosphate taken as two doses of 1½ ounces each the evening prior to the exam and in the early morning of the exam. However, there have been reports of kidney failure due to the precipitation of sodium phosphate crystals in the kidneys and the over-the counter form has been withdrawn from the market. There is a prescription form of sodium phosphate tablets (Visicol) that can be used, though this
physician has tended to avoid sodium phosphate. We are presently using "MoviPrep" a powder consisting of polyethylene glycol with another salt solution to which one adds the fluid of your choice, making that fluid non-absorbed. There are 2 one-quart doses taken the day prior to the exam and late the evening before or in the morning of the exam. The second dose the evening before or the day of the procedure is important to ensure a "very effective" colon cleansing, allowing all of the lining of the colon to be carefully and completely examined. That second dose should be taken 5-8 hours before the procedure.

The first dose generally requires up to three or more hours to complete its effect, whereas the second dose is faster. One should allow at least 4 hours for the effect of the morning dose before leaving for the procedure. Thus, if the arrival appointment is early, one will need to take the second dose late the evening before or awaken "very early" to complete the ingestion and subsequent clean-out before leaving your home. Detailed instructions on when and how to take these are given when one schedules a colonoscopy. An alternative preparation used for those with severe heart or kidney disease is Golytely or Nulytely, a 4-quart solution of polyethylene glycol. This is taken the day before the procedure, and is combined with another laxative such as Dulcolax tablets. We will let you know which preparation is appropriate for you.

Colonoscopy is typically performed in an outpatient surgery center or "GI Lab" of a hospital. One typically arrives 45 minutes before the start of the procedure in order to sign in, disrobe and put on a gown, have an intravenous line started, and discuss your health history with the nursing and anesthesiology staff.

The anesthesia is given intravenously, administered by one of our anesthesiologists or by a Registered Nurse under the supervision of this physician. The medication used by the anesthesiologist is typically Propofol, an ultra short-acting sedative with a "half-life" of about five minutes. This sedation is not considered general anesthesia, as you will be "breathing on your own," but you will not be aware during the procedure. You will be awake and alert in the recovery room as the medication is metabolized very quickly. The recovery time is 20 to 30 minutes and you may leave and eat anything afterward unless we discuss other plans. You may return to work that day if you wish, but you must not drive until the following day.

The medication administered by the RN and me is typically Versed, a Valium-like medication with the addition of Fentanyl, a narcotic. The Versed has a half-life of about 90 minutes leading to a slower recovery and one leaves the facility in about 45-60 minutes. Full recovery may take several hours and one would likely not work that day. If you have been sedated by either method, you MUST by state law be discharged from the recovery room to someone responsible that you know. A taxi driver does not count! You will be asked upon arrival for

the name of this person. If you have no one who could pick you up, we have someone who will do so for a reasonable fee.

During colonoscopy, any polyps found are removed at that time. I will discuss the findings with you in the recovery room after the procedure, and if there are any polyps taken or biopsies performed, we will receive a pathology report within three to five days. I will let you know in the recovery room if we need to call you with a report. About 30% of colonoscopies performed for screening yield one or more polyps, and in about 10% of exams a "significant polyp" is found. These are polyps that are typically larger and on microscopic exam considered to be
benign, but at a higher risk for advancement to cancer if removal is not performed. Because it is theorized that it takes 5 to 15 years to develop a polyp and have it progress towards cancer, an interval of 5 years between exams is probably safe, provided no significant polyp was found initially. Some recommendations are to perform a follow-up exam in 10 years. The risks of colonoscopy are perforation of the colon, estimated at 1 in 5-10,000, as well as risks of polyp removal, such as bleeding, and the risks of sedation.

The quality of the colonoscopy exam is extremely important if the “miss rate” of polyps and thus prevention of colon cancer is to be minimized or eliminated. The variables thought to be most important are the competence and compulsiveness of the endoscopist and the effectiveness of the clean-out. The amount of time it takes the endoscopist to withdraw the colonoscope from the end of the colon while watching for polyps has been termed the “Withdrawal Time”. There is some data that suggests a longer average withdrawal time, at least 6 minutes, correlates with a higher yield of polyps. A colon that is so clean that any residual present is minimal and a consistency of clear fluid also correlates with a higher yield.

A number of “quality measures” have been studied and published. One of the most important and one that perhaps reflects both the competence of the endoscopist and the quality of the clean-out is the “Adenoma Detection Rate” (ADR). This is expressed as the percentage of screened average-risk patients in whom an adenomatous polyp is found. The percentage should be at least in the range of 25-30%.

Q: How long does it take for the MoviPrep solution to work?

A: The first dose usually works within 3 hours but may take up to 4 hours. The second dose works much faster and is usually completed by 2½-3 hours.

Q: What if the first dose of MoviPrep has no effect in 4 to 5 hours?

A: Because of the difficulty in properly cleansing the colon, two effective doses are necessary. If the first dose has not had any significant effect by 4 hours, I would take 4 Dulcolax tablets. That is, 4 hours after the first dose a dose of 4 Dulcolax tablets will be necessary. Of course, the morning dose is still required for a total of three doses in this situation.

Q: What if my first dose is so effective that I believe I do not need a second dose?

A: Unfortunately, two doses are necessary! If you are to have a properly cleansed colon, you <u>will</u> need to take the second dose. If for some reason, if you cannot tolerate or do not take all the prescribed doses, be sure to tell me prior to the exam, preferably before you arrive.

Q: What if I am very sensitive to these laxatives and I believe, after taking the first dose, that the second dose is "too much for me"?

A: In this situation, try taking one-half of the second dose. That is, take ½ quart. If this is effective, perhaps this will be sufficient. If you feel you can handle it, you can then take the other half quart 30 to 60 minutes later. Again, in the majority of cases, two full doses are required to ensure your exam is excellent.

Q: The MoviPrep tastes terrible and has caused nausea. What can I do?

A: The powder can be mixed in ANY clear liquid such as 7 UP, Sprite or clear fruit juice. Though some may experience nausea, severe nausea or even vomiting is very rare. The nausea usually recedes after 30 minutes to 2 hours. Hang in there! For the second dose, to avoid this nausea, take it slower, mix the powder in something better tasting and refrigerate before taking it.

Q: I am confused by the instruction of when to stop taking liquids. When do I stop?

A: You can take all the clear liquids you want until 4 hours before your arrival time. Note that if your arrival time is particularly early, such as 6:45 a.m., you should plan to complete your laxative and liquid “breakfast” by 2:45 a.m., as you will not be able to take clear liquids after that. We want your stomach empty when we sedate you.

Q: I’ve heard the laxative tastes “dreadful”. Is there an alternative?

A: Most say it is not all that bad. I would mix it with something “tasty”, such as 7-UP or ginger ale, take it over ice, perhaps through a straw to reduce the taste, and follow immediately with jello to clear your mouth of the taste. And remember, this is only one day, and it’s for a good cause!

Q: I have taken only part of the prescribed preparation because I feel "clean enough." Is that okay?

A: If you do not follow the prescribed clean-out instructions, you risk not being clear enough for a complete exam and may need to repeat it. Please let me know if you find you have to vary the "prep."

Q: I have a very early arrival time and will basically need to “pull an all-nighter” if I am to take the prescribed preparation early in the morning. What can I do?

A: If you have a really early arrival time, like 6:30AM, you could take the first dose in the early to mid afternoon and the second dose around 10PM-11PM. Remember, the second dose should be taken 5-8 hours before arrival time. Please ask us if there is any confusion. And trust me….that morning dose is very important to achieve a clean colon.

Q: I tend toward constipation. Should I add something to my clean-out regimen to insure an adequate “preparation?”

A: Absolutely! Please let us know this so we can “personalize” your clean out schedule. You might also ask for a later procedure time, so if the morning dose is less than “effective” we have time to add something before you come in.

Q: When will I be ready to leave the facility after my procedure is completed?

A: Typically you will leave 2 hours after you arrive. Please have your ride park and come up to the waiting room and announce themselves. We will call them into the recovery

room when you are ready to leave, typically 30 minutes after your procedure is completed. Alternatively we can transport you down to the street level if you need to meet your ride there.

Q: I'm driving a long distance to the facility and should probably stay over one night. What would you recommend?

A: I would drive the day before the procedure, take the first laxative dose when you arrive, and plan to be driven home after you've eaten following the procedure.

Q: When will I hear about my results?

A: I will see you in the recovery room before you leave and discuss the procedure results with you. If biopsies have been taken or polyps removed, we will receive the report within the next 3 to 5 days. If there is a significant finding, we will call you at that time. If the findings are minimal, or the polyp(s) removed "diminuitive", I will let you know in the recovery room, and we will not plan on calling you.

Q: I am concerned that the clear liquid diet will not provide enough calories. What supplement can I take?

A: "Resource Fruit Beverage" is a high protein, clear liquid drink that you may purchase at a large pharmacy. It has approximately 9 grams of protein and 240 calories per 8 ounce box, and it comes in a variety of flavors. You may take as many as you wish while you're on "clear liquids". If you cannot find it at a local pharmacy, the pharmacies in our East and West Towers have them.

Q: I am very apprehensive and concerned about the anesthesia. Will I meet the anesthesiologist before the procedure and have a chance to tell him/her my needs and concerns?

A: Yes, you will have ample opportunity to discuss any concerns with me and the anesthesiologist in the "pre-op" area prior to the procedure. Of course, feel free to discuss these needs or concerns with me before your procedure date as well.

Q: How soon may I travel after the procedure?

A: If no electrocautery is used in the removal of significant polyps, you may travel virtually immediately. If we do remove large polyps with cautery, however, there is a

small chance of bleeding up to 10 days afterward, and I would not recommend travel of any consequence for 10 days; certainly not to Third World countries!

Q: I am quite modest, and wonder if I will be embarrassed during the procedure?

A: You will be well covered during the procedure, and every effort is made to respect your privacy.

Edward J.Share, M.D.