

## An easier way to go: Making colonoscopy prep easier, more palatable

November 22 2012, by Julie Deardorff

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The most dreaded part of a colonoscopy is prepping for it. The day before the exam, patients often drink large amounts of a vile-tasting liquid, then it's off to the throne for the better part of the day and night.

Though unpleasant, this extreme intestinal purging is a critical part of the process. The more thoroughly the colon is cleaned out beforehand, the easier it is for a doctor to detect and remove potentially dangerous precancerous [polyps](#).

Colonoscopies, or exams of the lining of the rectum and [large intestine](#) through a flexible tube called a colonoscope, are recommended for everyone starting at age 50 and every 10 years after that. But the prep can be so nasty and time-consuming that it's often poorly executed or avoided altogether.

Research suggests doctors will miss at least one precancerous growth in about one-third of patients who didn't properly prepare, according to a study published in the journal *Gastrointestinal Endoscopy*.

"There's no debate; people are afraid of the prep. It's the No. 1 barrier to getting a [colonoscopy](#)," said Andrew Spiegel, head of the Colon Cancer Alliance, a patient advocacy and education group. Colorectal cancer screening rates are a bit more than 50 percent nationally. An easier prep could boost screening rates and potentially save lives.

Colorectal cancer is the second-leading cause of [cancer death](#) in the

U.S., striking 1 in 19 Americans. It's also the most preventable major cancer, Spiegel said, because small polyps can be removed before they turn cancerous.

Though the exam is highly invasive, it's relatively painless; most patients are sedated.

The day before the procedure, however, requires some fortitude. Bowel cleaning methods can include drinking large amounts of liquids or downing 32 pills, which empty the colon by causing diarrhea. Patients abstain from eating solid foods and drink only clear liquids, including Popsicles, Jell-O, clear broth, coffee and tea.

The original liquid "gallon" preparation was a product called GoLyteLy, which contained 236 grams of MiraLAX (polyethylene glycol or PEG), an over-the-counter constipation treatment, and salts to prevent patients from getting dehydrated by the diarrhea.

Another version, NuLYTELY, has 420 grams of MiraLAX but no sulfate and less salt, making it slightly more tolerable than GoLyteLy.

Still, both require drinking a full gallon of liquid to induce diarrhea, a tall order for many patients. The solutions also can have side effects. GoLyteLy, for example, may cause abdominal pain, nausea and vomiting.

Researchers are working to improve the taste, which humorist Dave Barry described as "a mixture of goat spit and urinal cleanser, with just a hint of lemon," and to reduce the volume of liquid patients have to drink. Here's what's emerging:

## GATORADE

People who drank a mixture of 64 ounces (nearly 2 liters) of Gatorade

with 306 grams of MiraLAX experienced less bloating and cramping compared with those who prepped using a traditional solution, according to a recent study published in the journal *Clinical and Translational Gastroenterology*. MiraLAX flushes electrolytes from the body; pairing it with Gatorade or a similar drink helps maintain electrolyte balance.

"Gatorade cleaned the colon as well as the NuLYTELY and was far better tolerated," said gastroenterologist David Gerard, the study's lead author.

"Patients are able to drink 99 percent of their Gatorade/MiraLAX and rarely complained. Ninety-six percent of colons were adequately prepared, and there was no evidence the lower levels of salts in Gatorade caused dehydration."

Gerard said only two-thirds of his patients can drink the entire gallon of the traditional prep solution.

"It's a poor experience for them, and those who do not finish their prep solutions have lower-quality preparations which prevents the doctor from see everything," he said.

## DRUGS

Prepopik, a new drug approved by the Food and Drug Administration for cleansing the colon, requires drinking 10 ounces of an oral solution - 5 ounces at night and 5 more ounces the morning before the exam. Though touted as a low-volume option, it still must be taken with an additional 64 ounces of other fluids.

Prepopik, a combination of magnesium oxide and citric acid with sodium picosulfate, isn't widely available.

Moreover, the studies used for FDA approval showed that it did not cleanse the colon as well as some other methods, said Gerard, lead author of the Gatorade/MiraLAX study. Moreover, many patients do not like the taste of magnesium citrate. Side effects include headaches, nausea and vomiting.

Other drugs include oral sodium phosphate tablets, such as OsmoPrep and Visicol, which are available by prescription. OsmoPrep involves taking 32 pills along with drinking 64 ounces of clear liquids.

Over-the-counter oral sodium phosphate products were withdrawn from the market after the FDA warned in 2008 that they were associated with acute phosphate nephropathy, which can result in kidney failure and a lifetime of dialysis.

## CT COLONOGRAPHY

A CT colonography, also called a virtual colonoscopy, is a standard CT scan of the abdomen. The 2-D image is digitally reconstructed into 3-D, allowing the colon to be viewed in much the same way as it is during a colonoscopy, said Dr. David Greenwald a spokesman for the American Society for [Gastrointestinal Endoscopy](#).

CT colonography is "very accurate when looking for large polyps in the colon," he said. "It's not as accurate as traditional colonoscopy in detecting smaller polyps, some of which can be premalignant."

Polyps are expected to be found in at least 15 to 25 percent of people, and this means the polyps need to be removed during a traditional colonoscopy, which includes a second prep. In some cases, bits of stool stuck to the wall of the colon can be seen or misinterpreted as polyps, causing false positive results, said Greenwald, a professor of clinical medicine at Montefiore Medical Center in New York.

An emerging technology that uses digital subtraction to "virtually" remove the stool and fluid residue could make the prep easier, experts say.

"You drink a fluid that coats the stool and mixes in with the fecal residue," Greenwald said. "Then the computer digitally subtracts it, leaving only polyps." But again, those with polyps would still have to undergo a second prep and a standard colonoscopy.

CT colonography is less invasive than a colonoscopy, doesn't require sedation and can pick up problems outside the colon. But the bottom line: It still requires bowel preparation, insurance rarely pays for it, and the actual procedure can be more uncomfortable because patients aren't sedated.

Still, "about 30 percent of people who went for virtual colonoscopy wouldn't have been screened for [colon cancer](#) at all, so it's a nice option to throw in there," Spiegel said.

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