

<https://nyti.ms/2m35M6u> : Colon and rectal cancers rising in young people – by Roni C. Rabin

<https://nyti.ms/2vkzKE8> : More young people are dying of colon cancer – by Roni C. Rabin

These 2 articles (based on 2 recent scientific publications) are well-written, and present a very important issue, which builds upon the whole story and science of screening for colon cancer.

Unfortunately, screening of individuals under 50 is not likely to be a cost-effective solution, because the increase in rates of incidence and mortality appeared to be real, but the baseline absolute risk for diagnosis and death, from colorectal cancer, especially under age 40, remains very low.

The second paper refers to a research letter showing a statistically significant increase, from 2004 to 2014, in the rate of death from 3.6 to 4.1 per 100,000 patients aged 20-54 – primarily restricted to white individuals. Statistical significance sometimes comes from very large studies, where the true clinical significance of the observation is questionable.

The comments posted after the article cover a wide range of theories, and demonstrate a wide range of fallacies and mistakes. One reader, not surprisingly, suggested the NYT should not have comments sections, since it allows for opinions “like fake news”. Unfortunately responses tended to discredit the “four-star generals who write such reports”.

I would like to summarize some of the information in the comments, just to provide medical, and scientific, overview:

1) despite the one study quoted, the generally accepted rate of complication from colonoscopy, is closer to 1%, and the rate of perforation is thought to be 1 in 500 to 1 in 1000, and many studies suggest that the rate of perforation in a healthy patient being screened is closer to one in 2000 - 3000. Nevertheless, the risks of colonoscopy, as well as the inconvenience and cost, generally outweigh the benefits for

screening colonoscopy under age 40, except in cases of a positive family history.

2) there is a lot of concerned about diet, and unfortunately, in 2017, the only trends that have been clearly shown concerning diet and colorectal cancer are that diets higher in calories, diets higher in animal protein, and animal fat, diets higher in red meat, and especially processed meats, and diets lower in fruit and vegetables, are linked to an increased rate of colon cancer.

The scientific evidence regarding diet is controversial, because most dietary studies are based on individual patient recall, which is notoriously inaccurate, and in addition, dietary factors are interdependent, so that, for example, a diet that is high in red meat is probably also low in fruit and vegetables, and it may be difficult to sort out which is more of a problem. Secondly, diet, exercise and obesity are linked, and can be individually relevant risk factors for cancer development, including colorectal cancer. Diet is only one factor, obviously there is concern about environmental contamination, but very little scientific information, and there is also clearly evidence that other factors affect colon cancer risk, including age, obesity, ethnic background, smoking, and family history. Family history includes recognized genetic syndromes which are very uncommon, and unrecognized or poorly understood factors such as a first-degree relative with polyps or colorectal cancer, or even 2 second-degree relatives.

The person (Greg Gerner) who implies that he might be a doctor, by comments such as “our training at” over-simplifies the issue to diet alone. For reasons outlined above, he is wrong, (and probably not a real doctor).

3) an increase in the interval for screening/surveillance from 5 years to 3 years is not currently supported by any scientific evidence or expert Society/group. This type of “knee-jerk reaction” can significantly affect the cost-effectiveness of a screening procedure, and can put a small number of patients at increased risk for little or no benefit. Similarly, an increase in the interval for screening from 10 years to 5 years, in the absence of a family history, is also not currently supported.

4) there is significant confusion between the terms surgeon, gastroenterologist, and endoscopist or colonoscopist. The latter 2 terms refer to a health care practitioner performing endoscopy or colonoscopy, and these individuals can occasionally be nurse practitioners, or even family physicians, but they are usually specialists. The 2 specialist groups who offer the majority of colonoscopy are surgeons, who can be colorectal surgeons or general surgeons, and gastroenterologists. A third specialist group is general internists. There may be subtle differences in the performance and outcomes from different specialty groups.

5) a comment that there is still no proof that cigarette smoking causes lung cancer is completely misguided, although the author of the comment was trying to make a positive contribution.

6) most specialists who know about colon cancer screening know about the options, including fecal immunochemical testing, which is widely recommended in North America, and is now and equally valid “tier 1” test, considered to be an acceptable option or alternative to colonoscopy, and fecal DNA testing (Cologuard), which is at an earlier stage of acceptance, and is not available in Canada. Cologuard is an option in the States, but does not have the strength of evidence, nor, therefore, the degree of expert support, that exists for colonoscopy and FIT (fecal immunochemical testing).

7) the comment that “unless your Dr. spends at least 30-45 minutes on your colonoscopy, it probably is not worth having” is again completely misguided, but refers to well-established evidence that a longer withdrawal time correlates with an increased polyp detection rate, and although there are exceptions, the withdrawal time should be at least average 6-8 minutes. Assuming that it takes 5-10 minutes to insert the scope to the cecum, then an acceptable colonoscopy should take between 11 and 18 minutes, but usually takes 20-25 minutes. There are much more accurate measures of colonoscopy quality than time alone, and “30-45 minutes” is completely unscientific.

8) another comment stating that a person was “told by a doctor that there was a chance the patient might wake up “brain dead from anesthesia”” is a most ridiculous comment. Firstly, doctors do not use these terms, secondly the sedation is extremely safe, and whether provided by the endoscopist or an anesthesiologist, there are very small risks, but waking up “brain dead” does not occur. Waking up from colonoscopy “brain-dead from anesthesia” has never occurred, and does not even make sense. Firstly, the sedation used is not a general anesthetic, secondly it is administered by either the endoscopists or their nurses, themselves, or by a specialist anesthesiologist. As someone who has done thousands of colonoscopies, and continues to do more than 500 colonoscopies a year with 99.5% of them done with an anesthesiologist, I can confirm that those specialists are very concerned with adverse events and informed consent. I would not do the procedure if this risk existed. Many patients have discussed their anxieties and concerns with the anesthesiologist, and this (“brain-death”) has never come up from either the patient or the anesthesiologist.

9) the comment about sucralose is somewhat misguided. If you are a male Swiss mouse, then it looks like sucralose might increase the risks of hematopoietic cancer (leukemia or lymphoma) but currently sucralose is on the market, in many foods and drinks, and appears to be safe.

10) while somebody who appears to claim some authority suggests “it’s your diet”, this is completely misleading, and a family history, if positive for colorectal cancer, is much more important. It is not impossible to see colon cancer in a healthy physically active and nonsmoking vegetarian. It is obviously less common, but the family history and genetic factors, and sometimes “luck” can be more important than diet.

11) There is no evidence that laptops, cell-phones or spicy foods contribute to increased CRC risk.

12) There is an important discussion hidden in the comments, that “the only way to prevent (colorectal) cancer is to have a colonoscopy”. Indeed the definition of screening is early detection and prevention or reduction in the risk of death from the disease for which screening is being done. Nevertheless, colonoscopy has evolved to a colon-cancer

prevention test because a strong body of evidence supports that removing premalignant polyps, which is done during colonoscopy, is very effective at reducing the risk of colorectal cancer in those patients. No other screening test (for colorectal cancer or any other disease) has a direct effect on the risk of the disease itself. Other screening tests have been proven beyond doubt to reduce the CRC-specific mortality.