The second point is that no mention is made of the benign polyps identified as a result of this screening. The ideal result of a screening program like this would be to identify all of the colon neoplasms before they became malignant or invasive, and no mention was made of these findings in this report. Only by reporting the number of benign polyps identified and removed can the results of a screening trial such as this be considered complete.  

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In Reply.—I wish to thank Dr. Gregg for his interest in our article. His report on 33 of 34 colorectal cancer patients with positive results on Hemoccult slide tests is an impressive record for the high roughage diet. The problem in most screening populations is one of compliance. We requested that patients submit four specimens for occult blood testing, yet seven of 16 patients, six of them asymptomatic, submitted one or none. Adherence to a strict dietary regimen probably would have been still poorer. The most impressive aspect of Gregg's series is the patient compliance he was able to obtain.

I concur with the statement that bowel symptoms in the colorectal cancer age group are the rule. For that reason I cannot agree that Hemoccult slide testing is not indicated in asymptomatic patients. The high yield of cancers in patients with positive results on Hemoccult slide tests should prompt further investigation in the case with guaiac-positive stools whose symptoms might otherwise be overlooked.

The question of colonoscopy raised by Drs. Fowler and Heidelberg is somewhat beyond the purview of a screening study. We did find 12 adenomatous polyps among the 120 patients with positive results on Hemoccult slide tests. Other benign lower intestinal tract lesions, principally internal hemorrhoids, were identified as the probable bleeding source in 28 patients, while upper gastrointestinal tract disease was thought to be the cause of bleeding in an additional 28 patients. No bleeding site was identified in 43 patients. We found nine colorectal carcinomas among the 120 patients with positive findings on Hemoccult slide tests, hence the 7.5% detection yield. Obviously, we do not know how many cancers we failed to find, and some carcinomas may have gone undetected. We have no argument with the conclusions of Teague et al and Todesco et al that colonoscopy is indicated in bleeding patients with negative findings on barium studies. Despite the report by Gilbertson et al, barium enema examination has yet to be replaced as the standard secondary screening procedure by the much more costly colonoscopy. The detection rate in the colonoscopy series of Gilbertson et al of 8.4% (72 carcinomas in 860 patients with occult blood) is comparable to our own.

The issue of whether benign polyps should be considered premalignant lesions is one of the great controversies in medicine. While I have no argument with the colonoscopic removal of such lesions, I suspect no new light will be shed on this question by my entering into the debate with Fowler and Heidelberg.

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Cortical Blindness and Tourniquet Subclavian Steal

To the Editor.—The development of cardiorespiratory crisis in a young girl after tourniquet release on the left arm and the resulting cortical blindness merit further comment. Both the consultants' analyses (1980;244:1187) and subsequent comments (1989;244:1319) neglect the more plausible hemodynamic mechanism—subclavian steal caused by reflex hyperemia. The author of the original query, E. Steckiw, MD, has been kind enough to provide me with further detail surrounding the case presented that was correct in essence. It is my belief that the brainstem and occipital cortical ischemia resulted from subclavian steal precipitated by the release of the tourniquet on the left arm.

Consider the following data that support this position: (1) cortical blindness has been reported caused by subclavian steal in a girl with Blalock's procedure; (2) arm hyperemia after tourniquet release can substantially reduce the measured vertebral artery blood flow in the adult; and (3) the same basic symptom response has been reproduced by tourniquet release in a female adult with reduction of the ocular pulses and flattening of the EEG. This patient had a normal four-vessel angiogram except for minimal stenosis of the left subclavian artery. Tourniquet release on the left arm resulted within seconds in the loss of memory, dimming of vision, the inability to speak, ataxia, blepharospasm, periodic respiration, and dysphasia. Fortunately, the entire response is reproducible and has been captured on videotape.

The use of arm tourniquet ischemia is common, and vulnerability to tourniquet release may be increased in the child, in the dehydrated, on the side of the dominant vertebral artery, and in the presence of residual hemangioma, which may result in a more profound hyperemic response than ordinarily observed in the normal limb. The cited cases and the physiology involved have been discussed elsewhere in greater detail.

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Aspirin and Recurrent Myocardial Infarction

To the Editor.—The commentary by Richard J. Jones, MD (1980;244:667), summarizes the clinical trials of aspirin in patients with myocardial infarction. Jones indicates the possibility that in the Aspirin Myocardial Infarction Study (AMIS) the excess number of patients in the aspirin group with congestive heart failure, history of angina pectoris, and history of cardiac arrhythmias at baseline may have masked a significant effect in favor of aspirin. The data suggest that this is not the case. As was noted by Jones, statistical corrections for the imbalance did not alter the conclusions. In addition, among patients with none of these three baseline characteristics, total mortality was 8% in the aspirin group (n = 1,050) and 6.4% in the placebo group (n = 1,160).

Thus, it appears that the indicated baseline imbalance between groups is not responsible for the observed lack of benefit from aspirin.

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Letters
Neomycin Sensitivity and the MMR Vaccine

To the Editor.—Hypersensitivity to a medication is customarily considered a contraindication to its use. In the case of measles, mumps, and rubella (MMR) vaccine that contains neomycin, the package insert lists hypersensitivity to neomycin as a contraindication to the use of this preparation. Allergy to neomycin is commonly manifested as contact dermatitis and can be proved by patch testing with 20% neomycin in petrolatum or by intradermal testing at a concentration of 1:100.1 When the concentration for intradermal testing is decreased to 1:1,000, some persons will have a negative test result. This suggests that the threshold for elicitation of this sensitivity is in the range of 100 to 1,000 μg.

Neomycin allergy occurs in 1.1% of the general population and 5% to 6% of persons with suspected cutaneous allergy.1 In the evaluation of suspected neomycin allergy, it is customary to challenge the person with 100 to 1,000 μg of neomycin. The expected result is a standard tuberculin-like reaction at 48 to 72 hours. The entire MMR vaccine injection contains only 25 μg of neomycin, yet the package insert states that this is a contraindication to the use of the vaccine. Since neomycin allergy is usually a delayed type (cell-mediated immune) response, rather than anaphylaxis, the anticipated adverse reaction to 25 μg of neomycin in the MMR vaccine for the neomycin-sensitive patient would be an erythematous, pruritic papule at 48 to 72 hours.

The risk-to-benefit ratio for any given medication must be weighed by the physician in charge. If a history of anaphylactoid reactions to neomycin exists, the prescription against use of MMR vaccine seems reasonable, but this is seldom the case. The anticipated local reaction to MMR vaccine should be weighed against the potential benefit of immunization. Such local reactions can often be treated with topicaly administered corticosteroid preparations and are transient in nature.

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Colorectal Cancer Detection

To the Editor.—In a recent article Kurnick et al reported a 7.5% incidence of carcinoma in patients who had positive results on Hemocult slide tests used as a screening technique. However, to use that percentage as the endpoint in evaluating their screening program seems invalid for two reasons. First, no mention is made of the use of colonoscopy to examine these patients with blood in their stools. Two reports have documented that after normal findings at barium enema examination, a source of blood loss can be identified at the time of colonoscopy in about 20% of patients with occult blood and more than 40% of patients with frank blood in their stools.2 Depending on the series, 25% to 30% of these lesions were carcinoma. The incidence of false-negative barium enema results is so great that Gilbertsen et al use colonoscopy as the first diagnostic procedure in these patients and obtain a barium enema examination only when colonoscopy is incomplete.

In their series of patients with positive results on the Hemocult slide tests, 56 patients had a carcinoma of the colon above the reach of the sigmoidoscope, and 20 of the 56 were undetected by barium enema examination. Of even greater importance is that although the barium enema examination was good at demonstrating ten of 11 Duke's C and D lesions, it was much less accurate in detecting the more often curable Duke's A and B lesions, where it missed 19 of 45 lesions. These were all in asymptomatic patients with positive results on the Hemocult slide tests and suggest that numerous carcinomas might have been overlooked in the series reported by Kurnick et al.