CD Summary

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# COLORECTAL CANCER SCREENING AND PREVENTION (OR, SIGMOIDOSCOPY, ANYONE?)

COLORECTAL CANCER (CRC) is the third leading cause of cancer-related death in Oregon, behind lung and breast cancer. Every day, five Oregonians are diagnosed with invasive CRC, and it ranks fourth in incidence among cancers affecting Oregonians. There's not much question that CRC is an important health issue. What can we do about it?

## WHO'S AT RISK?

As with many cancers, the risk of developing CRC increases with age. The median age of diagnosis was 72 years and 92% of cases were diagnosed in persons >50 years of age. In 2001, the age-adjusted CRC incidence rate per 100,000 for men, 62.4, was 45% higher than the rate for women, 43.0.

## CRC SCREENING—WHAT'S THE CASE FOR IT?

Fortuitously, CRC is commonly preceded by a pre-cancerous lesion, the adenomatous polyp. When caught at this stage, the polyp can be removed, cure is almost assured, and CRC can be prevented.

In situations where CRC has already developed, prognosis is heavily dependent on the stage at diagnosis: the earlier, the better. This is the rationale for CRC screening.

## SCREENING TECHNOLOGIES

Methods available include fecal occult blood testing (FOBT), flexible sigmoidoscopy, colonoscopy, and radiographic studies. FOBT, while easy and generally acceptable to patients is, unfortunately, far from the perfect screening test. Since not all CRC results in bleeding, and many other conditions do, a positive result is not specific for CRC, and the test is not completely sensitive. Still, home guaiac testing of 3 samples yields a sensitivity of 50% for CRC, and other immunochemical assays for occult blood have sensitivities that are substantially higher.[1] A point to ponder: polyps rarely bleed much, so FOBT should be considered a screening test for CRC, not for polyps. A method to screen for polyps is needed as well. It is in the screening and evaluation of the pre-cancerous state that flexible sigmoidoscopy comes into play. The sigmoidoscope can visualize the distal 60cm or so of the colon; it cannot be used to detect lesions in the ascending or proximal transverse colon.

Image-based screening "colography" might yet prove to be an attractive alternative to sigmoidoscopy; it views the whole bowel, is less expensive and less invasive. However, use of computed tomography for this purpose is still in its infancy. Also, if a polyp is found on examination, an additional procedure (colonoscopy) would be required to remove it. Further, the venerable double-contrast barium enema, sometimes used to assess the ascending and transverse colon, is less sensitive than colonoscopy in detecting polyps.

Colonoscopy also has its fans* as a screening modality. It is certainly sensitive and specific, but the expense involved (often around $1,000), the fact that it is typically performed only by gastroenterologists, and the somewhat higher risk of complications limit its widespread use in general screening. Medicare recently began to cover colonoscopy for people age 50 or older with average risk every ten years and every two years for people at high risk.

## SCREENING RECOMMENDATIONS

In a heartening display of unanimity, the U.S. Preventive Services Task Force (USPSTF), the American Cancer Society (ACS) and the American Academy of Family Practice (AAFP) all strongly recommend routine screening for CRC starting at age 50. While all the excitement about image-based screening may lead to some changes, ACS recommends annual FOBT, involving at-home testing on multiple (usually 3) stools, and sigmoidoscopy every five years. AAFP also supports annual FOBT in combination with periodic sigmoidoscopy or colonoscopy. ACS further recommends earlier testing in those with inflammatory bowel disease or with a first-degree relative diagnosed with adenomatous polyps or CRC before age 60. In the latter case, ACS calls for screening with colonoscopy to begin at age 40 or at an age 10 years younger than the age at which the youngest case in a family member was diagnosed.

## HOW ARE WE DOING? SCREENING RATES

Although detecting colon cancer early can decrease both morbidity and mortality, in 2002, only about half (52%) of Oregonians age 50 and over reported having a sigmoidoscopy or colonoscopy at some point in their lives (up from 46% in 1997). Further, only 38% reported a sigmoidoscopy or colonoscopy in the preceding 5 years, and only 21% reported doing fecal occult blood testing in the prior year. When we look at those who report following both fecal occult blood testing in the past year and endoscopy in the past five years, the number cascades downward to 11%.†

Historically, people living in urban areas have reported higher screening compliance, but screening rates have been increasing among rural Oregonians.‡ From 1997 to 2002, screening rates in urban areas of the state remained at 12%, while in rural areas they increased threefold, from 3% to 9%.

* only in the abstract sense, most likely.

† All screening data from Oregon Behavioral Risk Factor Surveillance System Survey.

‡ Rural/Urban/Metro areas defined using Beales Urban-Rural classification system.

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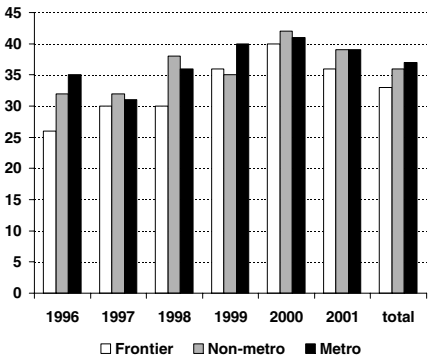
## HOW ARE WE DOING? – STAGE AT DIAGNOSIS

CRC stage at diagnosis varies by race/ethnicity and geographic region. In 2001, 39% of CRC was diagnosed at an early stage (in situ or localized), somewhat higher than the fraction of early-stage diagnoses (33%) in 1996. While whites (37%) and African Americans (36%) had similar percentages of early-stage CRC diagnoses during the five years from 1996 to 2000, other racial/ethnic groups were less likely to be diagnosed at an early stage (white Hispanics 30%, Asian/Pacific Islanders 28%, and American Indian/Alaska Natives 24%). Those living in densely populated areas were 8% more likely to have an early-stage CRC diagnosis compared to those living in rural areas, although this regional disparity appears to be narrowing. (See Figure.) It is possible that different screening rates in different regions and populations contribute to these disparities in stage at diagnosis.

**Percent of early-state colorectal cancer by degree of urbanization, Oregon 1996–2001**




## WHAT'S THE LOWDOWN ON PRIMARY PREVENTION?

Remember the good old days when we could go to bed every night and rest in untroubled slumber, secure in the knowledge that observational studies had shown that high-fiber and low-fat intake reduced the risk of CRC? Well, we still have compelling data from observational studies, the most recent being the 520,000-participant EPIC study[2] in Europe, which showed that high-fiber intake cut CRC risk by 40%. The problem is, recent prospective and intervention-based studies have been under- whelming in demonstrating a protective effect.

Observational studies also suggest that aspirin, calcium, and folate may protect against CRC, but most prospective studies on the possible benefit of these candidates for CRC prevention are still pending. On the positive side, one recent study[3] showed a 35% reduction in recurrent adenomatous polyps among folks with prior CRC who took 325 mg of aspirin a day. There is no generally-accepted recommendation on primary prevention of CRC at this point. Stay tuned.

## SUMMARY

- Colorectal cancer is the third leading cause of cancer death in Oregon.
- Colorectal cancer screening saves lives and reduces morbidity.
- Screening recommendations include annual fecal occult blood testing (typically on 3 stools) and endoscopy every five years after age 50, with earlier screening in those with inflammatory bowel disease or history of CRC or adenomatous polyps in a first degree relative younger than 60.
- While we've made some progress in screening over the past five years, there are even more folks out there we need to reach.

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