

Surveillance after a diagnosis of Colon Cancer

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Cost-Effectiveness (Cost/Year Life Saved)

- Mandatory motorcycle helmets \$2,000
- Colorectal cancer screening \$25,000
- Breast cancer screening \$35,000
- Dual airbags in cars \$120,000
- Smoke detectors in homes \$210,000
- School bus seat belts \$1,800,000

Colorectal Cancer in the USA

- 153,000 new cases diagnosed per year
 - 73% colon; 27% rectal
- 80% of patients with cancer confined to the colon undergo surgery, which also allows for accurate staging
- Still, stage II and III cancers can recur after primary treatment

Post Treatment Surveillance

- Many strategies published in the medical literature
- Intent: early detection of asymptomatic recurrence → curative therapy
- Survival benefit is seen for intensive post-surgery surveillance in several large studies

Emerging Consensus

- Stage I: favorable prognosis (95% cure rate); no surveillance recommended
- Stage II and III: Early diagnosis of recurrence results in better outcome
- Repeat surgery can cure some with limited local recurrence

Liver metastases

- Surgery also has curative potential in patients with limited spread, especially involving the liver
- Survival is improved in patients receiving partial liver resection for limited spread of tumor
- Also potentially in certain patients with isolated lung mets

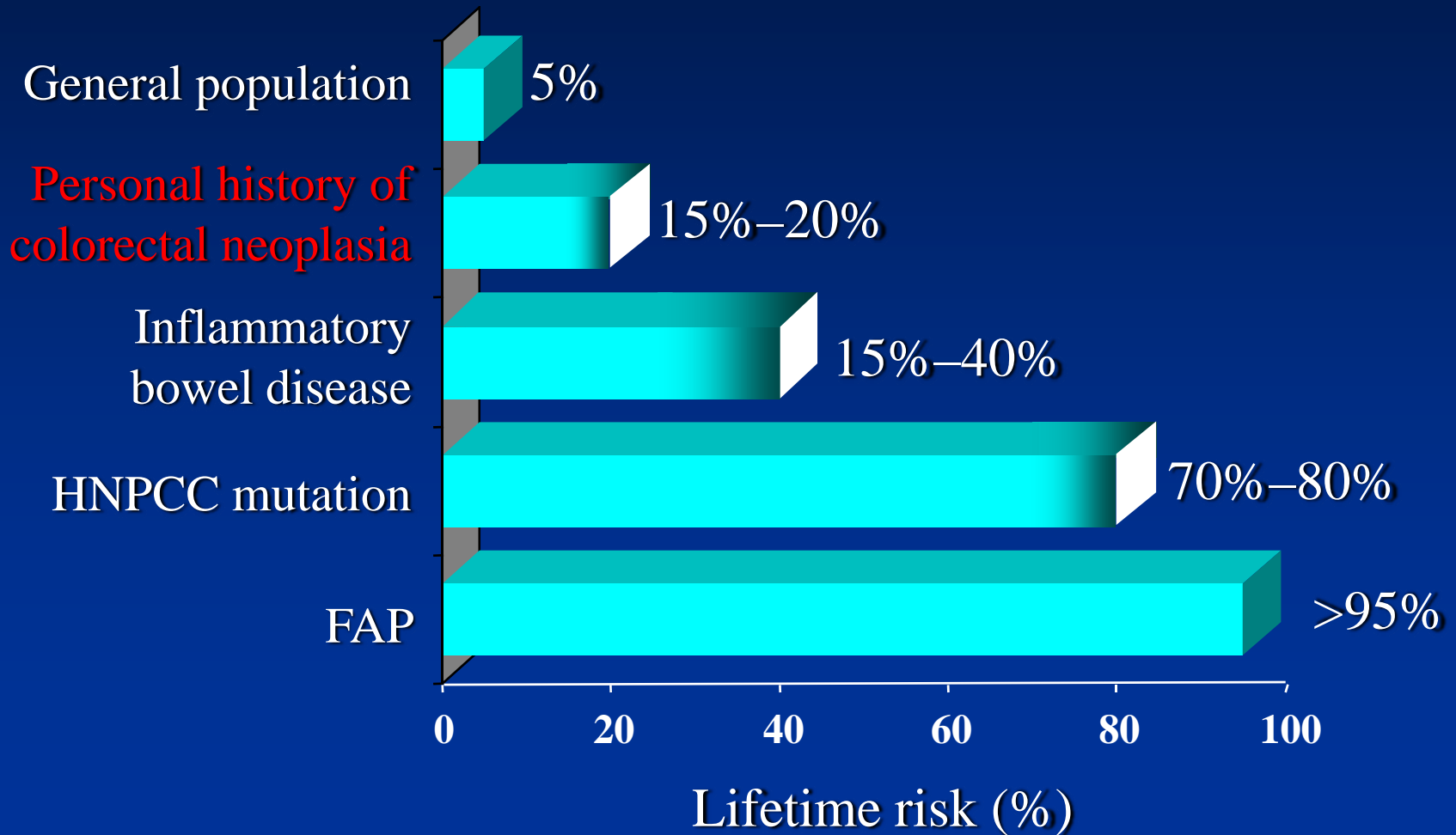
Asymptomatic vs. Symptomatic

- Asymptomatic recurrences are more likely candidates for potentially curative surgery: better progression-free and overall survival rates
- Still, symptomatic recurrence may still be candidates for potentially curative resection: ECOG's experience showed 25% of resectable recurrences were symptomatic

Surveillance Tools

- Variables analyzed in multiple studies:
 - History / physical
 - Occult blood in stool (FOBT)
 - Carcinoembryonic Antigen (CEA)
 - Liver blood tests
 - Standard blood count (CBC)
 - Chest X-ray
 - CT scanning
 - Endoscopy

Risk of Colorectal Cancer



Recurrence

- Most occur in the first 5 years (most in the 2 to 3 years after surgery)
- Liver metastases are most common

CEA

- Most patients with recurrence will have elevated CEA, but a significant minority do not
- Lead time of up to 6 months before recurrence detected by other means (resection of liver mets; longer term survival)
- Is it “cost effective”?; Still a useful tool because it does benefit some patients
- Consensus: check it every 3 to 6 months

CT scans

- Best data are for Abdomen CT (again because of liver metastasis issue)
- But both Abdomen and Chest CT are recommended annually for three years after primary therapy in patients who could be candidates for attempted curative surgery
- Potential survival benefit with both tests

PET scans

- Not for routine surveillance
- Potentially useful in patients with persistently elevated CEA and unrevealing other conventional studies
- Could potentially alter treatment

Second Cancers and Polyps

- Endoscopy (colonoscopy) is the only way to directly visualize the colon to identify second tumors or cancers
- Typically performed by a gastroenterologist

Around the time of diagnosis

- Two or more distinct primary colon cancers separated by normal colon can be seen in up to 5%
- All patients should undergo full pre-operative (good quality) colonoscopy to assess for this
- If an obstructing lesion is found, then colonoscopy can be done post-op, within 6 months.

Post-operative surveillance

- Periodic post-treatment endoscopy is endorsed by most major organizations: ASCO, ACS
- Goal: detect new tumors and polyps, both at the prior surgical site and at other locations remote from the prior cancer location

New Tumors

- Remote cancers develop in 1.5 to 3% of patients in the first 5 years after surgery; most of these come in the first 24 months
- At prior surgical site: 5 to 10% recurrence rate (most commonly in rectal cancer)
- These are no more aggressive than the initial cancers

How often colonoscopy?

- Repeat colonoscopy recommended at one year after initial clearance (because of the highest incidence of new tumors and polyps in that first 24 months after diagnosis)
- If normal, then the next colonoscopy at three years, and if normal, every five years thereafter.

Screening Family Members

- A family history, especially in first degree relatives increases risk of colorectal cancer
- Hereditary colon cancer is uncommon among patients with colon cancer, occurring between 1 and 5% of the time

CRC Screening: Moderate Risk Patient

Family History of CRC/polyps

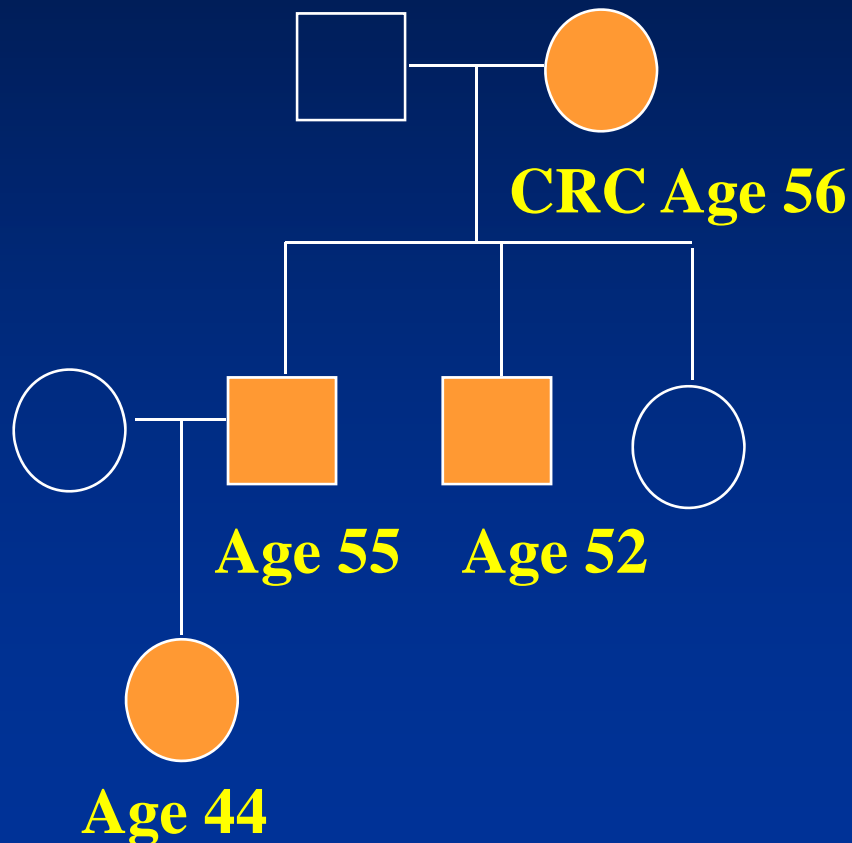
- CRC or adenomas in 1st degree relative < 60 or two 1st degree relatives of any age:

Colonoscopy at age 40, or 10 yrs before youngest case. Then every 5 years.

- CRC in other relatives:

*Average risk recommendations,
but start screening at age 40*

Hereditary Nonpolyposis Colorectal Cancer: Amsterdam Criteria



- 3 or more relatives w/ CRC
- 2 or more generations
- One case a first degree relative of the other two
- One case before age 50
- Familial polyposis ruled out

Hereditary Colon Cancer (HNPCC)

- Colorectal cancer

Colonoscopy q1-2 yrs from age 25

Colonoscopy q1 yr from age 40

CRC Screening: *Moderate risk patient*

History of adenomas

- Previous history of adenomatous polyps, particularly if large (>1 cm) or multiple:

Follow-up colonoscopy in 3 years.

Follow-up colonoscopy in 5 years

if only 1-2 adenomas < 1 cm.

- Subsequent exams dependent upon findings

High-risk GI cancer genetics clinic

- HUP: (215) 898-0154
 - Dr. Anil Rustgi
 - Dr. Timothy Hoops
- GI physicians and genetic counselors
- Multidisciplinary program Inherited colon cancer

Screening colonoscopy

- At PENN over 17,000 total procedures done at HUP, Presbyterian Hospital, Penn Medicine at Radnor; 40% are colonoscopies
- Schedule 215-349-8222 (call center in HUP GI); use all sites.
- Penn Medicine at Radnor: 610-902-1500
- Expedited appointments are available