Colorectal Cancer Screening: “To Scope or Not to Scope”

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Presenter Disclosure

• Faculty: Ross Stimpson

• Relationships with commercial interests:
  – None
Mitigating Potential Bias

• Not Applicable
Learning Objectives

At the end of this session, participants will be able to:

1) Identify the patient population eligible for CRC screening.

2) Describe appropriate CRC screening options for their patient population.

3) Explain how to enroll their patients in the ColonCheck program.

4) Identify provincial initiatives to reduce patient wait times to colonoscopy.
This year in Manitoba:
- 970 will be diagnosed with colorectal cancer (CRC)
- 340 will die from CRC

94% of cases are found in people >50 years of age.
CRC is treated successfully 90% of the time when detected in the earliest stages.
RCTs have shown that regular screening with a fecal occult blood test (FOBT) can reduce mortality from CRC by up to 25%.
Natural History

• Precursor polyp (adenoma to carcinoma)- 90%
  – Polyp to cancer – 10 years
  – Risk increases with increased size, high-grade dysplasia, or villous content (advanced adenomas)
  – Undergo progressive dysplastic changes

• Serrated adenoma pathway
  – Faster progression?
Benefits of Screening

1) CRC mortality reduction – “Stage Shift”
2) Cancer prevention with polypectomy
   – Colonoscopy screening
   – National Polyp Study Workgroup.
   N Eng J Med 1993 – 6 year follow-up
   • Reduced incidence of cancer - 76 to 90% compared to control population (scoped vs. never scoped)
Colon Cancer Detection

FOBT Facts

• “Detection” depends on blood loss
• Bleeding greater with: Cancer > advanced adenomas > simple polyps
• Increased detection with:
  – multiple samples
  – frequent intervals
  – lower threshold (50 ng vs. 300 ng/gram stool)
  – Increased sensitivity = decreased specificity = more positives

• All positives require colonoscopy
Guaiac-based tests (gFOBT)

- Results are qualitative
- Reagent applied
- Colour reaction noted
The Test: Hemoccult II SENSA

- Fecal Occult Blood Test (FOBT) or home screening test
- Test used to check for blood in the stool; blood may be a sign of polyps or colon cancer
- Test has six windows; 2 windows for 3 different bowel movements
- If any 1/6 windows are positive, overall result = positive
Alere Immunochemical (FIT) Test

- Sample taken with probe and vial
- Automated analysis
gFOBT vs FIT (iFOBT)

- Inexpensive
- Lower compliance due to restrictions and multiple samples
- Interference due to animal blood, peroxidases in diet and upper GI blood
- Qualitative analysis
- Poor sensitivity for advanced adenomas

- More expensive
- Increased compliance
- Specific for human blood
- No interference
- Quantitative analysis allows control of positive cut off
- Improved sensitivity for advanced adenomas
Most Suitable Screening Test?

- Fecal occult blood test (FOBT)
- Colonoscopy
- Flexible sigmoidoscopy
- Air contrast barium enema
- Other technologies
  - CTC- CT colonography or “virtual colonoscopy”
  - Serum tests- Septin 9
  - DNA Stool analysis
Colonoscopy and Screening

• Baxter et al, Ann Int Med, 2009; 150: 1-8
  – Case-control study

  – Odds Ratio – estimation of CRC death after colonoscopy, for complete colonoscopies
    • 0.63 – All cancers
    • 0.33 – Left-sided
    • 0.99 – Right-sided – NO PREVENTION

  – Bowel preparation, flat lesions, endoscopist skill and tumour biology may affect colonoscopy efficacy in screening particularly right colon.
Colonoscopy vs. FIT (iFOBT)

  - Randomized screening study
  - Cancers detected equally in each group
  - Greater participation in FIT
  - Advanced adenomas greater in Colonoscopy group
Population Screening Benefit

Colorectal Cancer Detection

- Participation
- Test Sensitivity
Flexible Sigmoidoscopy

• Limited exam of colon (60 cm)
• Technically easier than colonoscopy
• Performance without sedation
• Performed by nurses, FPs and PAs
• Significant pathology followed by colonoscopy
• Less risk than colonoscopy
• Similar resources to colonoscopy required
Flexible Sigmoidoscopy

• 3 case-control studies suggest benefit:
  – Up to 60% mortality benefit for CRC in reach of scope
  – Overall 33% mortality reduction

• Atkins et al., Lancet, 2010
  – One time flex sig.-55-64 years of age
  – Intention to treat
    • Reduction CRC cancer incidence – 23%
    • Reduction CRC mortality – 31%
  – Per protocol
    • Reduction CRC cancer incidence – 33%
    • Reduction CRC mortality – 43%
2016 CTFPHC Recommendations

- We recommend screening adults aged 60 to 74 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years. (*Strong recommendation; moderate quality evidence*)
- We recommend screening adults aged 50 to 59 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years. (*Weak recommendation; moderate quality evidence*)
- We recommend not screening adults aged 75 years and over for CRC. (*Weak recommendation; low quality evidence*)
- We recommend not using colonoscopy as a screening test for CRC. (*Weak recommendation; low quality evidence*)
ColonCheck Manitoba

Average Risk

50 to 74 years of age with:

• with no symptoms of Colorectal Cancer (CRC)
• no personal history of CRC, polyps or first –degree relatives diagnosed with colorectal cancer
• no diseases of the colon requiring monitoring by colonoscopy

Recommendation

Fecal Occult Blood Test (FOBT) every 2 years

OR Flexible sigmoidoscopy at intervals of 10 years or more (No organized program for flexible sigmoidoscopy in Manitoba)

• Colonoscopy is NOT recommended for average-risk screening
ColonCheck Manitoba

Above Average Risk

- one first degree relative diagnosed with CRC or advanced adenomatous polyps* at 60 years of age or older
- 2 or more second degree relatives diagnosed with CRC or advanced adenomatous polyps*

Recommendation

- Colonoscopy, every 10 years beginning at age 50, or 10 years earlier than the diagnosis of CRC in the family
- Average-risk screening with FOBT starting at age 40 may be an alternative
ColonCheck Manitoba

Above Average Risk

• One first-degree relative diagnosed with CRC or advanced adenomatous polyps* before 60 years of age
• 2 or more first-degree relatives diagnosed with CRC or advanced adenomatous polyps* at any age

Recommendation

• Colonoscopy, every 5 years - beginning at 50 years of age or 10 years earlier than youngest diagnosis of CRC or polyps in the family
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High Risk

• A personal history of CRC, adenomatous polyps
• Inflammatory bowel disease (IBD) with associated colitis
• Hereditary Cancer Syndromes

Recommendation

• Ongoing investigation and surveillance with colonoscopy
• Genetics referral for suspect hereditary cancer syndromes
What process does ColonCheck use for screening?

- ColonCheck has a data base which includes information from Manitoba Health:
  - Names & addresses of individuals age 50-74
  - Information about individuals who have completed an FOBT in the past 2 years or colonoscopy in the past 5 years

- The home screening test is distributed by ColonCheck through direct mail and primary care providers
What process does ColonCheck use for screening?

- Eligible individuals are sent a notification letter; three weeks later they are sent a home screening test.

- Individuals complete the test and return it to Cadham Provincial Lab in the postage paid return envelope provided in the kit.
Normal Results

ColonCheck mails normal result letters to:

– Participant
– Health Care Provider
Abnormal Results

ColonCheck’s Follow-up Coordinator:

- Contacts the individual by phone and letter to inform them of the result.
- Sends result letter to HCP.
- Coordinates colonoscopy referral.
FOBT Request Form

• ColonCheck has developed a simple to use form for health care providers to request an FOBT for patients due for screening.

• To request an FOBT, complete the FOBT Request Form on your EMR or paper (ensure all patient information filled) and fax to ColonCheck.

• If your patient is eligible for screening, ColonCheck will mail an FOBT invitation package directly to his/her residence.
Future plans

• Piloting a new test (FIT)
Manitoba Colonoscopy Wait Times

Problems

- Presently limited knowledge regarding length of individual endoscopist wait times for specific indications - Tendency to “stockpile” cases
- Little centralized colonoscopy scheduling or wait lists-individual booking and wait lists
- Long wait to office consultation delaying procedure
Manitoba Colonoscopy Wait Times

Problems

• No prioritization of urgent diagnostic colonoscopy over screening and surveillance procedures
• Limited use of “Central Intake” and booking-offers prioritization and referral to earliest appointment -”Direct to Scope” in selected cases
• Resource allocation
Colonoscopy Wait Times

Contributing Factors

- Poor adherence to screening and surveillance guidelines—"over-surveillance"
  - Coloncheck /CAG Guidelines
- Over usage of colonoscopy vs. FOBT for average-risk screening
  - Financial incentive” –Manitoba Health fee
  - Physician bias
- Inappropriate indications- GERD, Non- Fe Def. Anemia, Celiac Disease
Manitoba Colonoscopy Wait-time Improvement

- ColonCheck Manitoba
  - Guidelines-Screening, Surveillance
  - Nurse assessment-Direct Referral
- “In-Sixty” Cancer Patient Journey (CPJ)
- Central Intake:
  - WRHA
  - Manitoba Health-Provincial-SRHA, NRHA
  - PMRHA, IERHA
**Post Colonoscopy Screening and Surveillance Recommendations**

To be completed upon review of final pathology and family history. If no pathology, please fax completed form with colonoscopy report.

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Procedure Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOB:</td>
<td>Facility:</td>
</tr>
<tr>
<td>PHIN:</td>
<td>Endoscopist:</td>
</tr>
<tr>
<td>CRCSP#:</td>
<td>Primary Care Provider:</td>
</tr>
</tbody>
</table>

### Negative Result

**ColonCheck Recommendation**
- Average Risk Screening
  - recall for FOBT by ColonCheck
  - in 5 years

**Indicopist Recommendation**
(Please select one of the following)
- FOBT in 3 years

**Negative colonoscopy with significant F1+R with:
- one first degree relative diagnosed with colon cancer < 40 years of age;
- two first degree relatives at any age.**
- High Risk Screening
  - repeat colonoscopy in 5 years
  - no recall from ColonCheck

**Negative colonoscopy – post-curative resection for CRC.**
- repeat colonoscopy end of year 1 (within 6 months if colon is not cleared preoperatively); re-scope at 3 years then every 5 years indefinitely if the outcome is normal.

### Positive Result

**ColonCheck Recommendation**
- repeat colonoscopy in 5-10 years
  - no recall from ColonCheck

**Indicopist Recommendation**
- repeat colonoscopy ___ year(s)
  - 20

**Positive colonoscopy
- 1-2 tubular adenomas < 1cm**
- repeat colonoscopy in 3 years
  - repeat colonoscopy in 3 years when polyp clearance is achieved
  - no recall from ColonCheck

**Positive colonoscopy
- more than 2 tubular adenomas or any advanced (≥1 cm in size, high grade dysplasia, or villous component) or serrated adenoma.**
- repeat colonoscopy 3 years
  - repeat colonoscopy in 3 years when polyp clearance is achieved
  - no recall from ColonCheck

### Other

- Repeat colonoscopy required due to:
  - inadequate prep
  - incomplete exam
  - additional polyp clearance
  - re-examine polypectomy site

```latex
\checkmark Other findings (state):

\checkmark Other procedure/test required (state):

\checkmark Ordered
```

**Recommendation reviewed with patient:**
- Yes
- No

**Recommendation communicated to**
- Primary Care Provider:
  - Yes
  - No

**Signature:**

**Date:**

Fax completed form to ColonCheck: 204-774-0341
Work-Up of Suspected COLON or RECTAL CANCER

RISK FACTORS: Personal history of colorectal adenomas, CRC, inflammatory bowel disease, FAP or HNPPC, first degree relative with colorectal cancer (esp. if <60 years of age), male gender and/or age ≥ 60. Not up-to-date with screening (colonoscopy in past 5 yrs/ FOBT in past 2 yrs.)

PRACTICE POINTS: Abdominal & rectal exam and a CBC done on all patients with symptoms suspicious for colorectal cancer. All referrals sent within 24 hrs of visit. Provide complete information as requested to avoid delays.

Urgent
- Suspicious palpable rectal or abdominal mass
- Suspicious abnormal abdominal imaging ie: CT, CT Colonography, Barium Enema, etc.

Urgent referral to surgeon

Preferred Experience Point (PREP talk):
Ensure patient is well informed and receives appt information. If patient is in distress, offer referral to local counsellor. Connect with Cancer Navigation Services in your region.

Continue to Diagnostic pathway

Semi-Urgent
Unexplained Rectal Bleeding
- with one or more of the following features:
  - dark blood
  - weight loss
  - blood mixed with stool
  - persistent bleeding
  - change in bowel habits

Unexplained Iron Deficiency
- Anemia:
  - males: Hb ≤ 110 g/L
  - postmenopausal females: Hb ≤ 100 g/L
  - drop of Hb > 25 g/L, even if within normal range

FOBT Positive:
- Not a single office-based FOBT from DRE
- DO NOT test if active bleeding

Referral to specialist competent in endoscopy

FOBT Positive:
Order FOBT
(if not up-to-date with screening)

FOBT -

FOBT +

Treat signs/symptoms
* follow up AND if not resolved within 4-6 weeks
* Ensure patient books in 4-6 wks.

Non-urgent referral to a GI specialist (gastroenterologist or surgeon)

Non-Urgent
Unexplained rectal bleeding not meeting criteria for urgent or semi-urgent

Suspicin Pathway Notes:
Sixty day suspicion to first treatment timeline begins on the date of patient visit when a clinical suspicion of cancer triggers further cancer-focused investigation.

Only requisitions for patients who fit the red pathway should be noted as "urgent" to ensure urgent resources and timeline capacity can be maintained in next stages of the pathway.

Pathways are subject to clinical judgement and actual practice patterns may not always follow the proposed steps in this pathway. For additional clinical support, contact Cancer Question Helpline for Primary Care: call/text 204-226-2262 email cancerquestion@cancercares.mb.ca web www.cancercare.mb.ca/cancerquestion
**Central Referral Process**

- **Reasons for Referral**
  - Indicators align with the In Sixty Colorectal Pathway

- **Targets for Urgent/Semi Urgent**

- **Single referral process for primary care**

- **This referral form replaces the following forms/documents:**
  - referral letter
  - pre-operative history form
  - Cancer Navigation referral

### Reason for Referral

Indicate all that apply including duration of symptoms. Please provide additional information as an attachment to this form (see next page for specific tab and/or diagnostic information that should accompany the referral).

<table>
<thead>
<tr>
<th>URGENT (2 WEEKS)</th>
<th>SEMI-URGENT (4 WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palpable rectal or abdominal mass suspicious for cancer*</td>
<td>Unexplained rectal bleeding with one or more of the following features*</td>
</tr>
<tr>
<td>Lower abdominal imaging suspicious for cancer*</td>
<td>Dark blood/Melena</td>
</tr>
<tr>
<td>Upper abdominal imaging suspicious for cancer*</td>
<td>Changes in bowel habits</td>
</tr>
<tr>
<td>Other (specify):</td>
<td>Persistent rectal bleeding</td>
</tr>
</tbody>
</table>

*Consider Direct To Scope

**ELECTIVE ENDOSCOPY – Attach Clinical Notes**

- Above average risk screening* (indicate level: see page 3) □ Average Risk* □ Level 1 □ Level 2a □ Level 2b
- Surveillance for prior colorectal cancer* (include date of diagnosis and date of previous scope(s))
- Surveillance for prior polyps* (include information related to histology, history, size, and number and date of previous scope(s))

**CONSULTATION**

- Chronic or non-progressive dysphagia □ Unexplained significant weight loss
- Barrett's, known history/esablish Barrett's □ Change in bowel habits □ Unexplained anaemia (not iron deficiency anaemia) □ Abdominal pain (does not meet criteria for Semi-Urgent)
- Poorly controlled reflux/dyspepsia □ Unexplained anemia (not iron deficiency anaemia) □ Abdominal pain (does not meet criteria for Semi-Urgent) (signs/symptoms treated but not resolved in 4-6 weeks)
- Confirmation of suspected celiac disease □ Persistent or recurrent diarrhea □ Management of IBD
- Screen/manage uncomplicated varices □ Unexplained rectal bleeding
- Other (specify): 

**Additional Information:**
“Bottom” Line

• FOBT is the recommended test for CRC screening in average-risk individuals age 50-74 years

• Colonoscopy is not recommended for average risk screening but should be reserved for increased risk screening

• FIT promises increased cancer detection and participation

• Central intake reduces colonoscopy wait times- participate
ColonCheck Program vs. Ad Hoc Screening

• Identifiable Target Population
  – Patients that benefit
  – Avoid unnecessary screening procedures

• Measures to guarantee high coverage and attendance

• Education of public and professionals

• Ensure adequate facilities and resources

• Data collection- information system
  – Reporting, quality control