PR Bleeding

Mariko Howlett
Causes of PR Bleeding Age < 40
Causes of PR Bleeding Age > 40
CRC Statistics

Estimated number of new cases of colorectal cancer diagnosed in 2017

\[16,682 = 9,127 \text{ males } + 7,555 \text{ females}\]

Estimated % of all new cancer cases diagnosed in 2017

12.4%

Estimated number of deaths from colorectal cancer in 2017

\[4,114 = 2,136 \text{ males } + 1,978 \text{ females}\]

Estimated % of all deaths from cancer in 2017

8.6%

Chance of surviving at least 5 years (2009–2013)

69%
Risk of CRC Increases with Age

Figure 1: Estimated age-specific incidence and mortality rates for colorectal cancer, by sex, 2017

Source: AIHW [1]
**Clinical Features and CRC Risk**

<table>
<thead>
<tr>
<th>CLINICAL FEATURE</th>
<th>MEDIAN PPV, % (RANGE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palpable rectal or abdominal mass</td>
<td>NA*</td>
</tr>
<tr>
<td>Rectal bleeding combined with weight loss</td>
<td>13.0 (4.7-23)</td>
</tr>
<tr>
<td>Iron deficiency anemia</td>
<td>11.0 (7.7-41)</td>
</tr>
<tr>
<td>Rectal bleeding mixed with stool</td>
<td>11.0 (3.0-21)</td>
</tr>
<tr>
<td>Rectal bleeding in the absence of perianal symptoms</td>
<td>10.8 (6.9-18)</td>
</tr>
<tr>
<td>Rectal bleeding combined with change in bowel habits</td>
<td>10.5 (9.2-27)</td>
</tr>
<tr>
<td>Dark rectal bleeding</td>
<td>9.7 (7.4-17)</td>
</tr>
<tr>
<td>Rectal bleeding and diarrhea</td>
<td>9.0 (3.4-19)</td>
</tr>
<tr>
<td>Rectal bleeding and age ≥60 or ≥65 yrs</td>
<td>8.6 (4.6-20)</td>
</tr>
<tr>
<td>Rectal bleeding and age ≥70 or ≥75 yrs</td>
<td>7.9 (4.9-31)</td>
</tr>
<tr>
<td>Change in bowel habit or diarrhea</td>
<td>7.5 (0.94-14)</td>
</tr>
<tr>
<td>Rectal bleeding and male</td>
<td>7.5 (2.4-17)</td>
</tr>
<tr>
<td>Rectal bleeding and age ≥50 or ≥55 yrs</td>
<td>5.9 (4-11)</td>
</tr>
<tr>
<td>Rectal bleeding (undefined)</td>
<td>5.3 (2.2-16)</td>
</tr>
<tr>
<td>Rectal bleeding and abdominal pain</td>
<td>5.1 (1.7-23)</td>
</tr>
<tr>
<td>Rectal bleeding, first episode</td>
<td>5.0 (2.2-14)</td>
</tr>
</tbody>
</table>

CRC—colorectal cancer, NA—not available, PPV—positive predictive value.

*Median not available; individual studies reported PPVs >15%.
Referral of a 54 yo female

- Bowel habit change
- Episodes of bright red rectal bleeding
- Lethargic
- Nausea
- Abdominal cramp
- Strong FH for cancers
- Colonoscopy and gastroscopy ASAP please
What family history is of most significance?

A) Parent with polyps

B) Uncle with CRC diagnosed at age 65

C) Grandparent with CRC diagnosed at age 60

D) Sister with CRC diagnosed age 53
What family history is of most significance?

A) Parent with polyps

B) Uncle with CRC diagnosed at age 65

C) Grandparent with CRC diagnosed at age 60

D) Sister with CRC diagnosed age 53
If a parent was diagnosed with CRC at age 57, at what age should the patient begin screening?

A) 35

B) 47

C) 50

D) 55
BARCLAY KAREN, CANCER COUNCIL AUSTRALIA SURVEILLANCE COLONOSCOPY GUIDELINES
WORKING PARTY. ALGORITHM FOR COLORECTAL CANCER SCREENING – FAMILY HISTORY. 2013
If a parent was diagnosed with CRC at age 57, at what age should the patient begin screening?

A) 35

B) 47

C) 50

D) 55
If a brother was diagnosed with CRC at age 49, at what age should the patient start screening?

A) 49

B) 50

C) 45

D) 39
GUIDELINES FOR COLORECTAL CANCER SCREENING – FAMILY HISTORY

**Category 1**
Slightly above average risk (RR x 1.0-2.0)
- 1 FDR or SDR age >55 yrs at diagnosis

**Category 2**
Moderately increased risk (RR x 1.5-3.0)
- 1 FDR age ≤55yrs at diagnosis
- 2 FDR or 1 FDR and 1 SDR on the same side of the family, any age at diagnosis

**Category 3**
High risk
- Known or suspected familial syndrome

**Known FAP or Lynch Syndrome (i.e. HNPCC):**
- Specialist referral, as per NHMRC Guidelines
- Suspected Lynch Syndrome:
  - Every 1 or 2 yrs from age 25yrs or 5yrs younger than the youngest affected family member (whichever comes first)
- Suspected FAP or other syndromes:
  - Refer to Guidelines

**Abbreviations:**
- RR – Relative Risk
- FOB – Fecal Occult Blood Test
- FAP – Familial Adenomatous Polyposis
- HNPCC – Hereditary Non-Polyposis Colorectal Cancer
- FDR1/FDR2/FDR3 – First, Second, Third Degree Relative: mother or father, brother or sister, son or daughter
- SDR – Second Degree Relative: grandparent or grandchild, aunt or uncle, niece or nephew
- CRC – Colorectal Cancer

**FOBT every 1-2yrs and consider sigmoidoscopy (preferably flexible) every 5yrs from age 50yrs**
- Routine colonoscopy is not recommended

**5 yearly colonoscopy from age 50yrs or 10yrs younger than the age of first diagnosis of CRC in the family, whichever comes first**
If a brother was diagnosed with CRC at age 49, at what age should the patient start screening?

A) 49

B) 50

C) 45

D) 39
<table>
<thead>
<tr>
<th>Phase</th>
<th>Start Date</th>
<th>End Date</th>
<th>Eligible Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7 August 2007</td>
<td>30 June 2008</td>
<td>55 and 65</td>
</tr>
<tr>
<td>2</td>
<td>1 July 2008</td>
<td>30 June 2011[^a]</td>
<td>50, 55 and 65</td>
</tr>
<tr>
<td>2[^b]</td>
<td>1 July 2011</td>
<td>30 June 2013</td>
<td>50, 55 and 65</td>
</tr>
<tr>
<td>3</td>
<td>1 January 2015</td>
<td>ongoing</td>
<td>50, 55, 60, 65, 70 and 74</td>
</tr>
<tr>
<td>3</td>
<td>1 January 2016</td>
<td></td>
<td>50, 55, 60, 64, 65, 70, 72 and 74</td>
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<tr>
<td>3</td>
<td>1 January 2017</td>
<td></td>
<td><strong>50, 54, 55, 58, 60, 64, 68, 70, 72 and 74</strong></td>
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<tr>
<td>3</td>
<td>1 January 2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 January 2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[^a]: Eligible birthdates, and thus invitations, ended on 31 December 2010.
[^b]: Ongoing NBCSP funding commenced.
What other history would be helpful?

A) Amount of blood lost

B) Weight change

C) Duration of PR bleeding

D) Frequency of bowel motions
What other history would be helpful?

A) Amount of blood lost

B) Weight change

C) Duration of PR bleeding

D) Frequency of bowel motions
# Investigations

**FULL BLOOD EXAMINATION**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Reference Range</th>
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</thead>
<tbody>
<tr>
<td>Haemoglobin</td>
<td>139 g/L</td>
<td>(115-160)</td>
</tr>
<tr>
<td>Red Cell Count</td>
<td>5.1 x10&lt;sup&gt;12&lt;/sup&gt; /L</td>
<td>(3.6-5.2)</td>
</tr>
<tr>
<td>Haematocrit</td>
<td>0.42</td>
<td>(0.33-0.46)</td>
</tr>
<tr>
<td>Mean Cell Volume</td>
<td>84 fL</td>
<td>(80-98)</td>
</tr>
<tr>
<td>Mean Cell Haemoglobin</td>
<td>28 pg</td>
<td>(27-35)</td>
</tr>
<tr>
<td>Platelet Count</td>
<td>299 x10&lt;sup&gt;9&lt;/sup&gt; /L</td>
<td>(150-450)</td>
</tr>
<tr>
<td>White Cell Count</td>
<td>6.3 x10&lt;sup&gt;9&lt;/sup&gt; /L</td>
<td>(4.0-11.0)</td>
</tr>
<tr>
<td>Neutrophils</td>
<td>57%</td>
<td>(2.0-7.5)</td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>33%</td>
<td>(1.1-4.0)</td>
</tr>
<tr>
<td>Monocytes</td>
<td>6%</td>
<td>(0.2-1.0)</td>
</tr>
<tr>
<td>Eosinophils</td>
<td>3%</td>
<td>(0.04-0.40)</td>
</tr>
<tr>
<td>Basophils</td>
<td>1%</td>
<td>(&lt; 0.21)</td>
</tr>
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</table>

**IRON STUDIES**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Reference Range</th>
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</thead>
<tbody>
<tr>
<td>Serum Iron</td>
<td>15 umol/L</td>
<td>(10-33)</td>
</tr>
<tr>
<td>Transferrin IBC</td>
<td>57 umol/L</td>
<td>(45-70)</td>
</tr>
<tr>
<td>Transferrin Saturation</td>
<td>26%</td>
<td>(16-50)</td>
</tr>
<tr>
<td>Serum Ferritin Assay</td>
<td>44 ug/L</td>
<td>(20-290)</td>
</tr>
</tbody>
</table>
Colonoscopy

5 small polyps
(3 adenomas + 2 hyperplastic polyps)
When Is a Repeat Colonoscopy Due?

A) 6 months

B) 12 months

C) 3 years

D) 5 years
**Colonoscopic Surveillance Intervals – Adenomas**

**Low Risk**
- 1–2 adenomas
- Any adenoma ≥10mm
- No villous features
- No high grade dysplasia

**High Risk**
- 3–4 adenomas
- Any adenoma ≥10mm
- Villous features
- High grade dysplasia

**Multiple**
- ≥5 adenomas

**Possible Incomplete or Piecemeal Excision of Large or Sessile Adenoma**

**A.** Colonscopy at 5 years

**B.** Colonscopy at 3 years

**C.** 5–9: Colonscopy at 1 year

**D.** Colonscopy at 3–8 months

**Findings at 1st Follow-Up:**
- No adenomas
  - Colonoscopy at 10 years or FOBT every 1–2 years
- Low Risk
  - As for A
- High Risk
  - As for C

**Repeat colonoscopy at 3 yearly intervals. If the second follow-up colonoscopy is normal or shows low-risk features, consider increasing the interval on an individualized basis.**

**Findings at 1st Follow-Up:**
- No clear guidelines
- Suggest:
  - Multiple
  - As for C
  - If Normal, Low Risk
  - As for B
  - Or High Risk

**Consider referral to a genetics service.**

**Findings at 2nd Follow-Up:**
- No residual adenoma
  - 12 months
- Residual adenoma
  - As for D**

**Findings at 2nd Follow-Up:**
- Normal or Low Risk
  - As for A
- High Risk
  - As for B
- Multiple
  - As for C
- Recurrent adenoma
  - As for D**

**Consider other options if relevant e.g. surgical referral.**

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**Endorsed by:**
- Cancer Council Australia
- GESA
- CSSANZ

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When Is a Repeat Colonoscopy Due?

A) 6 months

B) 12 months

C) 3 years

D) 5 years
Referral of a 68 yo male

• Thanks for arranging a colonoscopy for this 68yo man who has 6 months of recurrent PR bleeding. He reports intermittent episodes of dark red PR bleeding, sometimes quite substantial in volume with no associated change in bowel habit or weight loss.

• Background history:
  • Dilated cardiomyopathy
  • Hypertension
  • Hypercholestrolaemia
What examination findings are most helpful?

A) Pale conjunctiva

B) Abdominal tenderness

C) Rectal mass

D) Blood on PR
What examination findings are most helpful?

A) Pale conjunctiva

B) Abdominal tenderness

C) Rectal mass

D) Blood on PR
Which of these investigations are most helpful?

A) CEA

B) CRP

C) Iron Studies

D) FBC
Which of these investigations are most helpful?

A) CEA

B) CRP

C) Iron Studies

D) FBC
# Investigations

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoglobin</td>
<td>160</td>
<td>N</td>
</tr>
<tr>
<td>White Cell Count</td>
<td>9.4</td>
<td></td>
</tr>
<tr>
<td>Platelet Count</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td>Haematocrit</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Red Cell Count</td>
<td>5.35</td>
<td></td>
</tr>
<tr>
<td>MCV</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Neutrophils</td>
<td>6.13</td>
<td>N</td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>2.10</td>
<td></td>
</tr>
<tr>
<td>Monocytes</td>
<td>0.81</td>
<td>N</td>
</tr>
<tr>
<td>Eosinophils</td>
<td>0.36</td>
<td>N</td>
</tr>
<tr>
<td>Basophils</td>
<td>0.03</td>
<td>N</td>
</tr>
<tr>
<td>Iron</td>
<td>9</td>
<td>L</td>
</tr>
<tr>
<td>Transferrin</td>
<td>2.5</td>
<td>N</td>
</tr>
<tr>
<td>Transferrin Saturation</td>
<td>15</td>
<td>L</td>
</tr>
<tr>
<td>Ferritin</td>
<td>123</td>
<td>N</td>
</tr>
</tbody>
</table>
What is the next most helpful investigation?

A) Flexible sigmoidoscopy

B) Abdominal USS

C) CT colonoscopy

D) Colonoscopy
What is the next most helpful investigation?

A) Flexible sigmoidoscopy

B) Abdominal USS

C) CT colonoscopy

D) Colonoscopy
Colonoscopy
Progress

• Laparoscopic high anterior resection
• Histopathology: High-grade adenocarcinoma, 6 of 16 positive lymph nodes
• Course of adjuvant chemotherapy, complicated by mild peripheral neuropathy
• Follow up at 9 months post surgery: CT chest, abdomen and pelvis shows no evidence of recurrent or metastatic disease, CEA < 5
If patient has haemorrhoids and no mass on digital rectal examination (DRE), refer if bleeding is recurrent or persists > 6 weeks

<table>
<thead>
<tr>
<th>Category 1</th>
<th>Appointment within 30 days is desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rectal bleeding with Red flags</td>
</tr>
<tr>
<td></td>
<td>Presence of Red flags</td>
</tr>
<tr>
<td></td>
<td>• Dark blood coating or mixed with stool</td>
</tr>
<tr>
<td></td>
<td>• Weight loss, &gt;35% of body weight in previous 6 months</td>
</tr>
<tr>
<td></td>
<td>• Abdominal/rectal mass</td>
</tr>
<tr>
<td></td>
<td>• Iron deficiency in males and postmenopausal women or unexplained iron deficiency in premenopausal women</td>
</tr>
<tr>
<td></td>
<td>• Patient and family history of bowel cancer (1st degree relative &lt;55 years old)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category 2</th>
<th>Appointment within 90 days is desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rectal bleeding without Red flags</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category 3</th>
<th>Appointment within 365 days is desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No category 2 criteria</td>
</tr>
</tbody>
</table>

If your patient does not meet the minimum referral criteria

Consider other treatment pathways or an alternative diagnosis.

If you still need to refer your patient:

• Please explain why (e.g. warning signs or symptoms, clinical modifiers, uncertain about diagnosis, etc.)
• Please note that your referral may not be accepted or may be redirected to another service