Find Cancer Early: A Guide for General Practitioners

Find Cancer Early: A Guide for General Practitioners is a tool designed to assist Western Australian (WA) General Practitioners (GPs) in the early diagnosis of patients with colorectal, lung, prostate and breast cancers. The resource reflects the most current clinical guidelines and uses the positive predictive value (PPV) tables, which are based on evidence for clinical features (including signs, symptoms and common investigations) that best predict cancer.

**Colorectal Cancer**

### Symptoms that best predict colorectal cancer
- Rectal bleeding
- Symptoms of anaemia (tiredness or fatigue)
- Weight loss
- Abdominal pain or tenderness
- Change in bowel habit (diarrhoea or constipation).

**Figure 1: Probability of cancer if clinical features present**

<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>PPV (%) for Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>0.42</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>1.1</td>
</tr>
<tr>
<td>Rectal bleeding</td>
<td>1.5*</td>
</tr>
<tr>
<td>Loss of weight</td>
<td>2.4</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>3.0</td>
</tr>
<tr>
<td>Abdominal tenderness</td>
<td>4.4</td>
</tr>
<tr>
<td>Abnormal rectal exam</td>
<td>5.4</td>
</tr>
<tr>
<td>Haemoglobin 10–13 g/dL</td>
<td>6.4</td>
</tr>
<tr>
<td>Haemoglobin &lt; 10 g/dL</td>
<td>7.4</td>
</tr>
</tbody>
</table>

**PPV as a single clinical feature**
- Constipation: 2.3%
- Diarrhoea: 2.6%
- Rectal bleeding: 3.2%
- Loss of weight: 3.2%
- Abdominal pain: 6.9%
- Abdominal tenderness: >10%

*Second presentation*

**Implications for practice**
- Findings of a physical examination including rectal examination can significantly alter the probability of colorectal cancer.
- Conduct a full blood count in people with possible symptoms of colorectal cancer.
- Low haemoglobin in the presence of symptoms significantly raises the probability of colorectal cancer.
- Positive FOBT can provide justification for an urgent referral for colonoscopy.
- Negative FOBT does not exclude cancer in people with symptoms.
- Recent onset of symptoms in patients >40 years should be viewed with a higher degree of suspicion.

Refer all suspected colorectal cancer for colonoscopy or appropriate specialist review.

**Risk factors**
- Increasing age
- Previous history of colorectal cancer, adenomas or Lynch syndrome-related cancers
- Inflammatory bowel disease
- Family history of colorectal cancer (suspected Lynch syndrome); other Lynch syndrome-related cancers; or adenoma (suspected familial adenomatous polyposis (FAP) (see RACGP Red Book for risk criteria)
- Alcohol consumption, physical inactivity, unhealthy diet, obesity, smoking.

**Probabilities highlighted in red are >5%, and urgent referral should be considered.**

**Figure 1** shows the probability of colorectal cancer for individual and pairs of clinical features, including second* presentation. For example, the probability of colorectal cancer for rectal bleeding alone is 2.4%, but rectal bleeding combined with an abnormal rectal exam increases the probability to 8.5%. Two separate episodes of rectal bleeding have a probability of 6.8%.

**Government of Western Australia**

**Department of Health**

**Partner:**

**Cancer Council WA**

View referral contact details for metropolitan and regional WA.
**Lung Cancer**

**Symptoms that best predict lung cancer**
- Haemoptysis
- Thrombocytosis
- Weight loss or fatigue, particularly in smoker or ex-smoker
- Loss of appetite
- Unexplained bone or chest pain/shoulder pain
- Dyspnoea
- Cough >3 weeks or change in nature of cough
- Persistent hoarseness
- Non-resolving pneumonia
- Significant neurological signs, e.g. ataxia, weakness.

**Figure 2: Probability of cancer in NON-smokers if clinical features present**

<table>
<thead>
<tr>
<th>Lung cancer clinical features</th>
<th>NON-smokers (including ex-smokers)</th>
<th>PPV= Positive predictive value (%) or probability of cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough</td>
<td>Fatigue</td>
<td>Dyspnoea</td>
</tr>
<tr>
<td>0.40</td>
<td>0.43</td>
<td>0.66</td>
</tr>
<tr>
<td>0.58*</td>
<td>0.63</td>
<td>0.79</td>
</tr>
<tr>
<td>0.57*</td>
<td>0.89</td>
<td>0.84</td>
</tr>
<tr>
<td>0.95*</td>
<td>1.2</td>
<td>2.0</td>
</tr>
<tr>
<td>1.2*</td>
<td>2.3</td>
<td>6.1</td>
</tr>
</tbody>
</table>

**Figure 3: Probability of cancer if smokers in clinical features present**

<table>
<thead>
<tr>
<th>Lung cancer clinical features</th>
<th>Smokers</th>
<th>PPV= Positive predictive value (%) or probability of cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough</td>
<td>Fatigue</td>
<td>Dyspnoea</td>
</tr>
<tr>
<td>0.9</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>1.3*</td>
<td>1.4</td>
<td>0.9</td>
</tr>
<tr>
<td>1.2*</td>
<td>1.4</td>
<td>1.3</td>
</tr>
<tr>
<td>1.5*</td>
<td>2.2</td>
<td>3.1</td>
</tr>
<tr>
<td>1.4*</td>
<td>4.4</td>
<td>7.6</td>
</tr>
<tr>
<td>1.7*</td>
<td>5.0</td>
<td>&gt;10</td>
</tr>
<tr>
<td>12*</td>
<td>Haemoptysis</td>
<td></td>
</tr>
</tbody>
</table>

Risk factors:
- Smoker or ex-smoker
- Increasing age
- Passive smoking
- Asbestos exposure
- Occupational exposures
- Previous lung diseases
- Family history of lung cancer.

Implications for practice:
- Perform early CXR in those with relevant symptoms.
- Conduct a full blood count in people with possible symptoms of lung cancer.

Diagnostic pathways:
Refer all suspected lung cancer to a respiratory physician affiliated with a lung cancer multidisciplinary team (MDT).

Probabilities highlighted in red are >5%, and urgent referral should be considered.

View referral contact details for metropolitan and regional WA.
Prostate Cancer

Symptoms that best predict prostate cancer:
- Hesitancy
- Nocturia
- Frequency/urgency
- Haematuria
- Weight loss

Figure 4: Probability of cancer if clinical features present

<table>
<thead>
<tr>
<th>Feature</th>
<th>Haematuria</th>
<th>Weight loss</th>
<th>Nocturia</th>
<th>Hesitancy</th>
<th>Benign rectal exam</th>
<th>Malignant rectal exam</th>
<th>Frequency/urgency</th>
<th>PPV (%) or probability of cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>0.75</td>
<td>2.2</td>
<td>3.0</td>
<td>2.8</td>
<td>12</td>
<td>2.2</td>
<td>PPV as a single clinical feature</td>
<td></td>
</tr>
<tr>
<td>1.6*</td>
<td>☐</td>
<td>1.9</td>
<td>☐</td>
<td>3.3</td>
<td>3.9</td>
<td>1.8</td>
<td>Haematuria</td>
<td></td>
</tr>
<tr>
<td>2.1*</td>
<td>12</td>
<td>☐</td>
<td>9.4</td>
<td>☐</td>
<td>1.8</td>
<td></td>
<td>Loss of weight</td>
<td></td>
</tr>
<tr>
<td>3.3*</td>
<td>☐</td>
<td>2.8</td>
<td>3.9</td>
<td>15</td>
<td>3.2</td>
<td></td>
<td>Nocturia</td>
<td></td>
</tr>
<tr>
<td>2.0*</td>
<td>☐</td>
<td>3.3</td>
<td>10</td>
<td>4.7</td>
<td></td>
<td></td>
<td>Hesitancy</td>
<td></td>
</tr>
<tr>
<td>3.1*</td>
<td>☐</td>
<td>3.1</td>
<td>4.0</td>
<td>13</td>
<td>Rectal exam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td>Rectal exam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4 shows the probability of prostate cancer for individual and pairs of clinical features, including second* presentation.

For example, the probability of prostate cancer for nocturia alone is 2.2%, but nocturia combined with weight loss increases the probability to 12%.

Two separate presentations of nocturia have a probability of 3.3%.

Probabilities highlighted in red are >5%, and urgent referral should be considered.

Risk factors:
- Increasing age
- Family history of prostate, breast or ovarian cancer (see RACGP Red Book for risk criteria).

Implications for practice:
- Severity of symptoms does not predict prostate cancer.
- Men age >40 years with lower urinary tract symptoms should have a Digital Rectal Exam (DRE) and PSA blood test.

Diagnostic option to One-Stop Prostate Clinic Criteria for referral:
- Hard, irregular prostate on DRE, regardless of PSA result
- Rising/raised age-specific PSA with symptoms.

Note: PSA should be taken at least 2 weeks after treatment for UTI. Two PSA measures should accompany referral.

For further information contact One-Stop Prostate Clinic
p: (08) 6152 6916

Refer all suspected prostate cancer to a Urologist affiliated with a MDT.
**Breast Cancer**

**Symptoms that best predict breast cancer**
- Lump or lumpiness in breast or axilla, especially if it's only in one breast
- Breast lump and pain
- Changes in nipple appearance, e.g. retraction, scaliness, inversion, redness
- Discharge from the nipple
- Breast pain, particularly localised with or without cyclic variation
- Change in shape or appearance of breast, e.g. dimpling, redness

**Figure 5: Probability of cancer if clinical features present**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Breast pain</th>
<th>Nipple discharge</th>
<th>Nipple retraction</th>
<th>Breast lump</th>
<th>Breast lump/pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>0.17</td>
<td>1.2</td>
<td></td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>50-59</td>
<td>0.80</td>
<td>2.1</td>
<td>2.6</td>
<td>8.5</td>
<td>5.7</td>
</tr>
<tr>
<td>60-69</td>
<td>1.2</td>
<td>2.3</td>
<td>3.4</td>
<td>25</td>
<td>6.5</td>
</tr>
<tr>
<td>&gt;70</td>
<td>2.8</td>
<td>23</td>
<td>12</td>
<td>48</td>
<td>&gt;5</td>
</tr>
</tbody>
</table>

**Figure 5 shows the probability of breast cancer for clinical features paired with age groups.**

For example, the probability of breast cancer for a breast lump at age 40-49 years is 4.8%. This increases to 48% for a woman aged 70 years or over. The breast lump/pain column is the PPV when a woman has reported both a breast lump and breast pain at least once each during the year before the index date.

<table>
<thead>
<tr>
<th>Probabilities highlighted in red are &gt;5%, and urgent referral should be considered.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;5% probability of cancer</td>
</tr>
<tr>
<td>2-5% probability of cancer</td>
</tr>
<tr>
<td>1-2% probability of cancer</td>
</tr>
<tr>
<td>&lt;1% probability of cancer</td>
</tr>
<tr>
<td>denotes data unknown</td>
</tr>
</tbody>
</table>

**Risk factors**
- Family history of breast or ovarian cancer (see RACGP Red Book for risk criteria)
- Increasing age (uncommon <40 years)
- Previous diagnosis of breast cancer or DCIS
- Breast density
- Hormonal factors:
  - Longer menstrual history (age at menarche <12 years, age at menopause >55 years)
  - Use of hormonal treatments (combined hormone replacement therapy, oral contraceptive pill)
  - Conception history (age at first birth >29 years, nulliparity)
- Alcohol consumption, overweight & obesity (particularly in postmenopausal women), physical inactivity

**Implications for practice**
- The triple-test is the recommended approach in the investigation of breast changes.
- The triple-test includes:
  1. Clinical examination
  2. Imaging (mammography and/or ultrasound)
  3. Non-excision biopsy (FNA and/or core biopsy).
- If any of the triple test results are abnormal or if all three do not fit with a benign diagnosis, refer urgently to a Breast Assessment Clinic.
- Nipple retraction in women over 50 years should be investigated.
- Any new breast symptom or sign should be investigated as clinically indicated.

**Diagnostic pathways**
Refer to Cancer Australia’s ‘The investigation of a new breast symptom: a guide for GPs’ for investigation pathways.

Refer all suspected breast cancer to a Breast Assessment Clinic affiliated with a MDT.


This resource was initially developed as part of the Improving Rural Cancer Outcomes Project by The University of Western Australia, Cancer Council WA and Department of Health WA’s Rural Cancer Initiative project team which investigated ways to improve cancer outcomes for people in rural WA. The resource was last updated by Cancer Council WA in July 2018.