NICE NG12 Suspected cancer: recognition and referral
Tumour group summary

Dr Anitha Prabhu Bolanthur
Why have I been referred to hospital?

Important information about your appointment at hospital within two weeks

Your General Practitioner (GP) or dentist has asked for an appointment at the hospital for you within two weeks. This is because you have symptoms that could indicate cancer.

THE APPOINTMENT WILL BE IN THE NEXT 14 DAYS. PLEASE MAKE IT YOUR PRIORITY TO ATTEND.

DOES THIS MEAN I HAVE CANCER?

The tests are to find out whether or not you have cancer.

Most people do not have cancer. However, for the small number of people who do, seeing a specialist quickly can mean it is diagnosed and treated early. Cancer diagnosed early is more likely to be treated successfully.

WHY DO I NEED TO GO TO THE HOSPITAL?

A hospital specialist can do further investigations and tests. You may need these because:

• Your symptoms have not gone away and need to be investigated;
• The treatment already prescribed by your GP or dentist has not worked;
• Results from tests previous tests suggest you should see a specialist;
• To rule out a serious condition.

WILL I NEED TO HAVE ANY TESTS?

You might need some tests. You may have these:

1. At a hospital appointment before the specialist doctor/nurse sees you on a different day. (Sometimes your results mean you won’t need to come back.);
2. The same day as your appointment with the specialist doctor or nurse; or
3. The specialist doctor or nurse might ask you to come back for tests on a different day, after they have seen you.

The specialist doctor will decide when you will have these tests.

WHAT SHOULD I DO NOW?
NICE Suspected guidance (NG12)

Recommendations on the symptoms, signs and abnormal investigation results that warrant investigations and referral for suspected cancer.

Key changes

- Recommendations organised by signs and symptoms
- Thresholds lowered down to 3% positive predictive value (PPV) for adults and even more for children
- Referrals to direct testing
- Very urgent referrals (within 48 hours)
- Safety netting recommendations
NG12: What does NEW 3% PPV look like?

- If you received a safety recall notice explaining that there was a fault with your car that had a higher than 1 in 33 chance of breaking down and potentially killing you. *Would you take your car to be checked?*

- NG12 made recommendations for children and young people significantly below the 3% PPV threshold, although no explicit threshold value was set.
NICE Guidance (NG12): highlights

New symptom clusters recommended for suspected cancer two week wait referrals

**Lung cancer**  
Haemoptysis in patients over 40y

**Brain cancer**  
Adults with progressive, sub-acute loss of central neurological function

**Breast Cancer**  
Unexplained axillary lump

**Lower GI cancer**  
Under 50y with rectal bleeding and iron deficiency anaemia

**Upper GI cancer**  
Weight loss in over 55s with *either* upper abdominal pain or reflux or dyspepsia
NICE Guidance (NG12): highlights

Signs and symptoms recommended for primary care two week wait investigations for suspected cancer

**Chest X-ray**
- urgent, to assess for lung cancer in over 40s with a range of vague symptoms and smokers requiring fewer symptoms to qualify

**Ultrasound**
- direct access, to assess for endometrial cancer if woman aged over 55 with visible haematuria or vaginal discharge (and abnormal investigation results)

**Abdominal CT**
- direct access, to assess for pancreatic cancer in over 60 and weight loss and new onset diabetes or a back pain or a range of abdominal symptoms
NICE Guidance (NG12): Updates since 2015

Use of FIT in symptomatic patients (DG30)

- 2017 recommendation
- For patients with certain symptoms that are under 3% PPV
- Thresholds lower than in the use of FIT for screening
- If FIT test is positive => urgent suspected cancer referral

Hearing loss

- Middle ear effusion in certain ethnic groups => urgent suspected cancer referral
NICE Guidance (NG12): Updates since 2015

- Change of PSA age related reference ranges
  - PHE 2016
  - PSA >=3 for 50-69y

Source: https://cks.nice.org.uk/prostate-cancer#diagnosissub:2

NICE Guidance (NG12): highlights

New abnormal primary care test results recommended for suspected cancer two week wait referral

Raised platelets relevant to:
- Lung cancer
- Endometrial cancer
- Gastric cancer
- Oesophageal cancer

Anaemia
No thresholds for iron deficiency anaemia in lower GI urgent referral guidance.

HbA1c
Diagnosis of new onset diabetes in 60 year old with weight loss for abdominal CT
Case study 1st consultation shortness of breath

A white male patient Mark, aged 57, never smoked, a keen cyclist

- Presenting with shortness of breath after exertion which started suddenly, about a month ago:
  “I run out of breath after cycling comparatively short distances”
- No cough or pain in the chest
- Pulse is normal and lungs sound clear
- No other symptoms reported

What would you do/ask next?

Royal College of General Practitioners
Cancer Research UK
Case study 1st consultation shortness of breath

Consider all causes of shortness of breath, what questions would you need to ask for more information?

• Ask about past and current occupational exposure
  • No exposure to asbestos in past/current roles

• Check whether Mark’s non-smoking status has changed
  • No – still non smoker

• Check for shortness of breath as a red flag symptom for cancer
  • NG12 guidance
Case study 1st consultation shortness of breath

SHORTNESS OF BREATH
Ever smoked/asbestos exposed 40+: 19
With cough/fatigue/chest pain/weight loss/appetite loss 40+: 19
With unexplained lymphadenopathy: 5
With unexplained splenomegaly: 5

NG12 guidance states...
Case study 1st consultation shortness of breath

- Shortness of breath reported as the only symptom, with no history of smoking or asbestos exposure means that a suspected cancer referral/investigation is not recommended by NG12.

What would you do next?

- Further investigation within primary care (blood tests and routine chest x-ray)
  - Book tests, set reminders for test results and ensure results are communicated to Mark.

- No further action:
  - BUT ask Mark to book another appointment if symptoms develop, worsen or persist. Code symptoms in GP software. Explain who to contact for further questions. Give any relevant patient leaflets. (Safety netting processes).
Case study  2nd consultation and test results
shortness of breath

• You ordered routine blood tests. Raised platelets reported
• In order to investigate reasons for raised platelet levels, you give Mark a call.
• You tell him that his blood test indicate that he needs further assessments to explain raised platelets.
• During 2nd consult Mark also says he started smoking a few years ago.

What are the next steps?

Shortness of breath + ever smoked history in those 40+
Raised platelet levels in those 40+
= NG12 recommends considering an urgent chest X-ray (to be performed within 2 weeks)
Additional learning points from CASE STUDY

.... Raised platelet counts or ‘thrombocytosis’ linked to

- Lung
- Endometrial
- Gastric
- Oesophageal

⇒ LEGO...

Emerging evidence suggests:
Colorectal
Additional learning points from the case study

... chest x ray accuracy. What is the CXR false negative rate among patients diagnosed with lung cancer?

• Around 23-25% (though other studies have reported this as low as 10%)

What can we do to try and prevent these patients from falling through the net?
• Safety-netting
• Further testing at GP practice
Key learning points from the case study

- Thorough history taking
- Awareness of cancer referral guidelines
- Thrombocytosis/raised platelets
- Chest x-ray accuracy
- Safety-netting
- Patient Information
Resources

CRUK Online Support:
https://www.cancerresearchuk.org/health-professional/learning-and-support/online-learning/continual-professional-development-cpd
Further resources

- Cancer Research UK Health Professional Resources webpage.
  https://www.cancerresearchuk.org/health-professional/learning-and-support/resources

- Contact a CRUK Health Professional Facilitator to arrange a practice visit.
  https://www.cancerresearchuk.org/health-professional/learning-and-support/tailored-help-for-gp-practice

  http://www.nice.org.uk/guidance/ng12/evidence/full-guidance-65700685

- NICE Suspected cancer: recognition and referral tumour site recommendations
  http://www.nice.org.uk/guidance/NG12/chapter/1-recommendations

- Suspected cancer (part 1—children and young adults): visual overview of updated NICE guidance
  http://www.bmj.com/content/350/bmj.h3036
Breast

• Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for breast cancer if they are:
  • aged 30 and over and have an unexplained breast lump with or without pain or
  • aged 50 and over with any of the following symptoms in one nipple only:
    • discharge
    • retraction
    • other changes of concern
• Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for breast cancer in people:
  • with skin changes that suggest breast cancer or aged 30 and over with an unexplained lump in the axilla.
  • Consider non-urgent referral in people aged under 30 with an unexplained breast lump with or without pain.
Cancer of unknown primary

Some symptoms or symptom combinations may be features of several different cancers. For some of these symptoms, the risk for each individual cancer may be low but the total risk of cancer of any type may be higher. This section includes recommendations for these symptoms.

Symptoms of concern in children and young people

- Take into account the insight and knowledge of parents and carers when considering making a referral for suspected cancer in a child or young person. Consider referral for children if their parent or carer has persistent concern or anxiety about the child’s symptoms, even if the symptoms are most likely to have a benign cause.

Symptoms of concern in adults

For people with unexplained weight loss, which is a symptom of several cancers including colorectal, gastro-oesophageal, lung, prostate, pancreatic and urological cancer:

- Carry out an assessment for additional symptoms, signs or findings that may help to clarify which cancer is most likely and offer urgent investigation or a suspected cancer pathway referral (for an appointment within 2 weeks).

For people with unexplained appetite loss, which is a symptom of several cancers including lung, oesophageal, stomach, colorectal, pancreatic, bladder and renal cancer:

- Carry out an assessment for additional symptoms, signs or findings that may help to clarify which cancer is most likely and offer urgent investigation or a suspected cancer pathway referral (for an appointment within 2 weeks).

For people with deep vein thrombosis, which is associated with several cancers including urogenital, breast, colorectal and lung cancer:

- Carry out an assessment for additional symptoms, signs or findings that may help to clarify which cancer is most likely and consider urgent investigation or a suspected cancer pathway referral (for an appointment within 2 weeks).
### Non-specific features of cancer


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<thead>
<tr>
<th>Features</th>
<th>Possible cancer</th>
<th>Recommendation</th>
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</thead>
<tbody>
<tr>
<td>Appetite loss (unexplained)</td>
<td>Multiple, including lung, oesophageal, stomach, colorectal, pancreatic, bladder or renal</td>
<td>Assess for additional features that may clarify which cancer is most likely and offer urgent investigation or suspected cancer pathway referral</td>
</tr>
<tr>
<td>Appetite or weight loss or fatigue (unexplained), age ≥40 years, ever smoked or exposed to asbestos</td>
<td>Lung or mesothelioma</td>
<td>Offer a chest x-ray</td>
</tr>
<tr>
<td>Appetite or weight loss or fatigue with unexplained fatigue or shortness of breath or chest pain or weight loss (unexplained), age ≥60 years, never smoked nor exposed to asbestos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep vein thrombosis</td>
<td>Multiple, including ureteral, breast, colorectal, or lung</td>
<td>Assess for additional features that may clarify which cancer is most likely and consider urgent investigation or suspected cancer pathway referral</td>
</tr>
<tr>
<td>Fatigue (persistent), adults</td>
<td>Leukaemia</td>
<td>Consider very urgent full blood count</td>
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<tr>
<td>Infection (unexplained and persistent or recurrent)</td>
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</tr>
<tr>
<td>Jaundice, age ≥40 years</td>
<td>Pancreatic</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Lymphadenopathy or splenomegaly (unexplained), with fixed, right axillary, or pruritus</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Pallor</td>
<td>Leukaemia</td>
<td>Consider very urgent full blood count</td>
</tr>
<tr>
<td>Weight loss (unexplained)</td>
<td>Multiple, including colorectal, gastro-oesophageal, lung, prostate, pancreatic, or urological</td>
<td>Assess for additional features that may clarify which cancer is most likely and offer urgent investigation or suspected cancer pathway referral</td>
</tr>
<tr>
<td>Weight loss (unexplained) with abdominal pain, age ≥40 years</td>
<td>Colorectal</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Weight loss (unexplained) with rectal bleeding, age ≥50 years</td>
<td>Colorectal</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Weight loss (without rectal bleeding)</td>
<td>Colorectal</td>
<td>Offer testing for occult blood in faeces</td>
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<tr>
<td>Weight loss with unexplained lymphadenopathy or splenomegaly</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Weight loss with upper abdominal pain or reflux or dyspepsia, Oesophageal or stomach</td>
<td>Oesophageal or stomach</td>
<td>Offer urgent direct access upper GI endoscopy</td>
</tr>
<tr>
<td>Weight loss with thrombocytosis or nausea or vomiting, age ≥55 years</td>
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</tr>
<tr>
<td>Weight loss with diarrhoea or back pain or abdominal pain or nausea or vomiting or constipation or new-onset diabetes, age ≥80 years</td>
<td>Pancreatic</td>
<td>Consider urgent direct access CT scan or urgent ultrasound scan if CT unavailable</td>
</tr>
</tbody>
</table>
Children and TYA

**Symptoms of concern in children and young people** Take into account the insight and knowledge of parents and carers when considering making a referral for suspected cancer in a child or young person. Consider referral for children if their parent or carer has persistent concern or anxiety about the child's symptoms, even if the symptoms are most likely to have a benign cause.

**Leukaemia in children and young people**

Refer children and young people for immediate specialist assessment for leukaemia if they have unexplained petechiae or hepatosplenomegaly. [new 2015]

Offer a very urgent full blood count (within 48 hours) to assess for leukaemia in children and young people with any of the following:

- pallor
- persistent fatigue
- unexplained fever
- unexplained persistent infection
- generalised lymphadenopathy
- persistent or unexplained bone pain
- unexplained bruising
- unexplained bleeding

**Hodgkin's lymphoma in children and young people**

Consider a very urgent referral (for an appointment within 48 hours) for specialist assessment for Hodgkin's lymphoma in children and young people presenting with unexplained lymphadenopathy. When considering referral, take into account any associated symptoms, particularly fever, night sweats, shortness of breath, pruritus or weight loss.

**Brain tumour/cancers**

Consider a very urgent referral (for an appointment within 48 hours) for suspected brain or central nervous system cancer in children and young people with newly abnormal cerebellar or other central neurological function.
Children and TYA

Soft tissue sarcoma
Consider a very urgent direct access ultrasound scan (to be performed within 48 hours) to assess for soft tissue sarcoma in children and young people with an unexplained lump that is increasing in size.
Consider a very urgent referral (for an appointment within 48 hours) for children and young people if they have ultrasound scan findings that are suggestive of soft tissue sarcoma or if ultrasound findings are uncertain and clinical concern persists.

Bone sarcoma
Consider a very urgent referral (for an appointment within 48 hours) for specialist assessment for children and young people if an X-ray suggests the possibility of bone sarcoma.
Consider a very urgent direct access X-ray (to be performed within 48 hours) to assess for bone sarcoma in children and young people with unexplained bone swelling or pain.

Neuroblastoma
Consider very urgent referral (for an appointment within 48 hours) for specialist assessment for neuroblastoma in children with a palpable abdominal mass or unexplained enlarged abdominal organ.

Retinoblastoma
Consider urgent referral (for an appointment within 2 weeks) for ophthalmological assessment for retinoblastoma in children with an absent red reflex.

Wilms' tumour
Consider very urgent referral (for an appointment within 48 hours) for specialist assessment for Wilms' tumour in children with any of the following:
• a palpable abdominal mass
• an unexplained enlarged abdominal organ
• unexplained visible haematuria
Colorectal
Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer:
• they are aged 40 and over with unexplained weight loss and abdominal pain or
• they are aged 50 and over with unexplained rectal bleeding or
• they are aged 60 and over with:
  • iron-deficiency anaemia or changes in their bowel habit, or tests show occult blood in their faeces (see recommendation 1.3.4 for who should be offered a test for occult blood in faeces).
  • Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer in people with a rectal or abdominal mass.
• Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer in adults aged under 50 with rectal bleeding and any of the following unexplained symptoms or findings:
  • abdominal pain
  • change in bowel habit
  • weight loss
  • iron-deficiency anaemia.
Offer testing for occult blood in faeces to assess for colorectal cancer in adults without rectal bleeding who:
• are aged 50 and over with unexplained:
• abdominal pain or weight loss, or
• are aged under 60 with:
• changes in their bowel habit or iron-deficiency anaemia, or
• are aged 60 and over and have anaemia even in the absence of iron deficiency.
Anal cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for anal cancer in people with an unexplained anal mass or unexplained anal ulceration.
Dermatology

Melanoma

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) if dermoscopy suggests melanoma of the skin.

Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for melanoma in people with a pigmented or non-pigmented skin lesion that suggests nodular melanoma.

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for melanoma if they have a suspicious pigmented skin lesion with a weighted 7-point checklist score of 3 or more.

**Weighted 7-point checklist**

- **Major features of the lesions (scoring 2 points each):**
  - change in size
  - irregular shape
  - irregular colour

- **Minor features of the lesions (scoring 1 point each):**
  - largest diameter 7 mm or more
  - inflammation
  - oozing
  - change in sensation
Dermatology

- **Squamous cell carcinoma**
  Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for people with a skin lesion that raises the suspicion of squamous cell carcinoma.

- **Basal cell carcinoma**
  Consider routine referral for people if they have a skin lesion that raises the suspicion of a basal cell carcinoma.
  Only consider a suspected cancer pathway referral (for an appointment within 2 weeks) for people with a skin lesion that raises the suspicion of a basal cell carcinoma if there is particular concern that a delay may have a significant impact, because of factors such as lesion site or size.
  Follow the NICE guidance on improving outcomes for people with skin tumours including melanoma: the management of low-risk basal cell carcinomas in the community (2010 update) for advice on who should excise suspected basal cell carcinomas.
Gynaecology

Refer the woman urgently if physical examination identifies ascites and/or a pelvic or abdominal mass (which is not obviously uterine fibroids)

- Carry out tests in primary care if a woman (especially if 50 or over) reports having any of the following symptoms on a persistent or frequent basis – particularly more than 12 times per month:
  - persistent abdominal distension (women often refer to this as 'bloating')
  - feeling full (early satiety) and/or loss of appetite
  - pelvic or abdominal pain
  - increased urinary urgency and/or frequency.

Consider carrying out tests in primary care if a woman reports unexplained weight loss, fatigue or changes in bowel habit.

Advise any woman who is not suspected of having ovarian cancer to return to her GP if her symptoms become more frequent and/or persistent.

Carry out appropriate tests for ovarian cancer in any woman of 50 or over who has experienced symptoms within the last 12 months that suggest irritable bowel syndrome (IBS), because IBS rarely presents for the first time in women of this age.

- Measure serum CA125 in primary care in women with symptoms that suggest ovarian cancer
- If serum CA125 is 35 IU/ml or greater, arrange an ultrasound scan of the abdomen and pelvis.
- If the ultrasound suggests ovarian cancer, refer the woman urgently for further investigation.
- For any woman who has normal serum CA125 (less than 35 IU/ml), or CA125 of 35 IU/ml or greater but a normal ultrasound:
  - assess her carefully for other clinical causes of her symptoms and investigate if appropriate
  - if no other clinical cause is apparent, advise her to return to her GP if her symptoms become more frequent and/or persistent.
Gynaecology

Endometrial cancer

- Refer women using a suspected cancer pathway referral (for an appointment within 2 weeks) for endometrial cancer if they are aged 55 and over with post-menopausal bleeding (unexplained vaginal bleeding more than 12 months after menstruation has stopped because of the menopause).
- Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for endometrial cancer in women aged under 55 with post-menopausal bleeding.
- Consider a direct access ultrasound scan to assess for endometrial cancer in women aged 55 and over with:
  - unexplained symptoms of vaginal discharge who:
    - are presenting with these symptoms for the first time or have thrombocytosis or report haematuria, or visible haematuria
    - low haemoglobin levels or thrombocytosis or high blood glucose levels (diabetes)

Cervical cancer

- Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for women if, on examination, the appearance of their cervix is consistent with cervical cancer.

Vulval cancer

- Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for vulval cancer in women with an unexplained vulval lump, ulceration or bleeding.

Vaginal cancer

- Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for vaginal cancer in women with an unexplained palpable mass in or at the entrance to the vagina.
Leukaemia in adults
Consider a very urgent full blood count (within 48 hours) to assess for leukaemia in adults with any of the following:

- pallor
- persistent fatigue
- unexplained fever
- unexplained persistent or recurrent infection
- generalised lymphadenopathy
- unexplained bruising
- unexplained bleeding
- unexplained petechiae
- hepatosplenomegaly.

Leukaemia in children and young people
Refer children and young people for immediate specialist assessment for leukaemia if they have unexplained petechiae or hepatosplenomegaly. [new 2015]

Offer a very urgent full blood count (within 48 hours) to assess for leukaemia in children and young people with any of the following:

- pallor
- persistent fatigue
- unexplained fever
- unexplained persistent infection
- generalised lymphadenopathy
- persistent or unexplained bone pain
- unexplained bruising
- unexplained bleeding.
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<td>Leukaemia</td>
<td>Full blood count &lt; 48 hours</td>
<td>Hepatosplenomegaly</td>
<td>Leukaemia</td>
<td>Full blood count &lt; 48 hours</td>
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<td>Fever (unexplained)</td>
<td>Leukaemia</td>
<td>Full blood count &lt; 48 hours</td>
<td>Splenomegaly (unexplained)</td>
<td>Non-Hodgkin’s</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Infection (unexplained and persistent or recurrent)</td>
<td>Leukaemia</td>
<td>Full blood count &lt; 48 hours</td>
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<td>Lymphadenopathy or splenomegaly (unexplained) with fever, night sweats, or pruritus</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
<td>Non-Hodgkin’s lymphoma</td>
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<td>Pallor</td>
<td>Leukaemia</td>
<td>Full blood count &lt; 48 hours</td>
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<td>Weight loss with unexplained lymphadenopathy or splenomegaly</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
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<tr>
<td>Shortness of breath with unexplained lymphadenopathy or splenomegaly</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
<td>Lymphoma</td>
<td>Consider suspected cancer pathway referral</td>
<td></td>
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<tr>
<td>Persistent back pain or bone pain or unexplained fracture age ≥60 years</td>
<td>Myeloma</td>
<td>Offer full blood count, blood tests for calcium, and either plasma viscosity or erythrocyte sedimentation rate</td>
<td>Myeloma</td>
<td>Consider suspected cancer pathway referral</td>
<td></td>
</tr>
</tbody>
</table>
Haematology

Myeloma

• Offer a full blood count, blood tests for calcium and plasma viscosity or erythrocyte sedimentation rate to assess for myeloma in people aged 60 and over with persistent bone pain, particularly back pain, or unexplained fracture.

• Offer very urgent protein electrophoresis and a Bence-Jones protein urine test (within 48 hours) to assess for myeloma in people aged 60 and over with hypercalcaemia or leukopenia and a presentation that is consistent with possible myeloma.

• Consider very urgent protein electrophoresis and a Bence-Jones protein urine test (within 48 hours) to assess for myeloma if the plasma viscosity or erythrocyte sedimentation rate and presentation are consistent with possible myeloma.

• Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) if the results of protein electrophoresis or a Bence-Jones protein urine test suggest myeloma.

Non-Hodgkin's lymphoma in adults

• Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for non-Hodgkin's lymphoma in adults presenting with unexplained lymphadenopathy or splenomegaly. When considering referral, take into account any associated symptoms, particularly fever, night sweats, shortness of breath, pruritus or weight loss.

Non-Hodgkin's lymphoma in children and young people

• Consider a very urgent referral (for an appointment within 48 hours) for specialist assessment for non-Hodgkin's lymphoma in children and young people presenting with unexplained lymphadenopathy or splenomegaly. When considering referral, take into account any associated symptoms, particularly fever, night sweats, shortness of breath, pruritus or weight loss.

Hodgkin's lymphoma in adults

• Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for Hodgkin's lymphoma in adults presenting with unexplained lymphadenopathy. When considering referral, take into account any associated symptoms, particularly fever, night sweats, shortness of breath, pruritus, weight loss or alcohol-induced lymph node pain.

Hodgkin's lymphoma in children and young people

• Consider a very urgent referral (for an appointment within 48 hours) for specialist assessment for Hodgkin's lymphoma in children and young people presenting with unexplained lymphadenopathy. When considering referral, take into account any associated symptoms, particularly fever, night sweats, shortness of breath, pruritus or weight loss.
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<th>Investigation</th>
<th>Possible cancer</th>
<th>Recommendation</th>
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<td>Raised plasma viscosity or erythrocyte sedimentation rate and presentation consistent with myeloma</td>
<td>Myeloma</td>
<td>Protein electrophoresis and Bence-Jones protein urine test &lt; 48 hours</td>
</tr>
<tr>
<td>Hypercalcaemia or leucopenia and presentation consistent with myeloma, age ≥60 years</td>
<td>Myeloma</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Protein electrophoresis or Bence-Jones protein urine results suggest Myeloma</td>
<td>Myeloma</td>
<td>Refer using suspected cancer pathway</td>
</tr>
</tbody>
</table>
Head and neck

Laryngeal cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for laryngeal cancer in people aged 45 and over with:
• persistent unexplained hoarseness or an unexplained lump in the neck.

Oral cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for oral cancer in people with either:
• unexplained ulceration in the oral cavity lasting for more than 3 weeks or a persistent and unexplained lump in the neck.

Consider an urgent referral (for an appointment within 2 weeks) for assessment for possible oral cancer by a dentist in people who have either:
• a lump on the lip or in the oral cavity or a red or red and white patch in the oral cavity consistent with erythroplakia or erythroleukoplakia.

Consider a suspected cancer pathway referral by the dentist (for an appointment within 2 weeks) for oral cancer in people when assessed by a dentist as having either:
• a lump on the lip or in the oral cavity consistent with oral cancer or a red or red and white patch in the oral cavity consistent with erythroplakia or erythroleukoplakia.

Thyroid cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for thyroid cancer in people with an unexplained thyroid lump.
Lung

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for lung cancer if they:

• have chest X-ray findings that suggest lung cancer or
• are aged 40 and over with unexplained haemoptysis.

Offer a chest X-ray to assess for lung cancer in people aged 40 and over if they have 2 or more of the following unexplained symptoms, or if they have ever smoked and have 1 or more of the following unexplained symptoms:

• cough
• fatigue
• shortness of breath
• chest pain
• weight loss
• appetite loss.

Consider an urgent chest X-ray (to be performed within 2 weeks) to assess for lung cancer in people aged 40 and over with any of the following:

• persistent or recurrent chest infection
• finger clubbing
• supraclavicular lymphadenopathy or persistent cervical lymphadenopathy
• chest signs consistent with lung cancer
• thrombocytosis.
Lung

Mesothelioma

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for mesothelioma if they have chest X-ray findings that suggest mesothelioma.

Offer a chest X-ray to assess for mesothelioma in people aged 40 and over, if:

• they have 2 or more of the following unexplained symptoms, or
• they have 1 or more of the following unexplained symptoms and have ever smoked, or
• they have 1 or more of the following unexplained symptoms and have been exposed to asbestos:
  • cough
  • fatigue
  • shortness of breath
  • chest pain
  • weight loss
  • appetite loss.

Consider an urgent chest X-ray (to be performed within 2 weeks) to assess for mesothelioma in people aged 40 and over with either:

• finger clubbing or
• chest signs compatible with pleural disease.
Neurology

Adults

• Consider an urgent direct access MRI scan of the brain (or CT scan if MRI is contraindicated) (to be performed within 2 weeks) to assess for brain or central nervous system cancer in adults with progressive, sub-acute loss of central neurological function.

Children and young people

• Consider a very urgent referral (for an appointment within 48 hours) for suspected brain or central nervous system cancer in children and young people with newly abnormal cerebellar or other central neurological function.
Sarcoma

Bone sarcoma in adults
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for adults if an X-ray suggests the possibility of bone sarcoma.

Bone sarcoma in children and young people
Consider a very urgent referral (for an appointment within 48 hours) for specialist assessment for children and young people if an X-ray suggests the possibility of bone sarcoma.
Consider a very urgent direct access X-ray (to be performed within 48 hours) to assess for bone sarcoma in children and young people with unexplained bone swelling or pain.

Soft tissue sarcoma in adults
Consider an urgent direct access ultrasound scan (to be performed within 2 weeks) to assess for soft tissue sarcoma in adults with an unexplained lump that is increasing in size.
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for adults if they have ultrasound scan findings that are suggestive of soft tissue sarcoma or if ultrasound findings are uncertain and clinical concern persists.

Soft tissue sarcoma in children and young people
Consider a very urgent direct access ultrasound scan (to be performed within 48 hours) to assess for soft tissue sarcoma in children and young people with an unexplained lump that is increasing in size.
Consider a very urgent referral (for an appointment within 48 hours) for children and young people if they have ultrasound scan findings that are suggestive of soft tissue sarcoma or if ultrasound findings are uncertain and clinical concern persists.
Upper GI

Oesophageal cancer

Offer urgent direct access upper gastrointestinal endoscopy (to be performed within 2 weeks) to assess for oesophageal cancer in people:

- with dysphagia or aged 55 and over with weight loss and any of the following:
- upper abdominal pain
- reflux
- dyspepsia.

Consider non-urgent direct access upper gastrointestinal endoscopy to assess for oesophageal cancer in people with haematemesis.

Consider non-urgent direct access upper gastrointestinal endoscopy to assess for oesophageal cancer in people aged 55 or over with:

- treatment-resistant dyspepsia or upper abdominal pain with low haemoglobin levels or raised platelet count with any of the following:
- nausea
- vomiting
- weight loss
- reflux
- dyspepsia
- upper abdominal pain, or
- nausea or vomiting with any of the following:
  - weight loss
  - reflux
  - dyspepsia
  - upper abdominal pain.
Upper GI

Stomach cancer

Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for people with an upper abdominal mass consistent with stomach cancer.

Offer urgent direct access upper gastrointestinal endoscopy (to be performed within 2 weeks) to assess for stomach cancer in people:

• with dysphagia or aged 55 and over with weight loss and any of the following:
• upper abdominal pain
• reflux
• dyspepsia.

Consider non-urgent direct access upper gastrointestinal endoscopy to assess for stomach cancer in people with haematemesis.

Consider non-urgent direct access upper gastrointestinal endoscopy to assess for stomach cancer in people aged 55 or over with:

• treatment-resistant dyspepsia or upper abdominal pain with low haemoglobin levels or raised platelet count with any of the following:
  • nausea
  • vomiting
  • weight loss
  • reflux
  • dyspepsia
  • upper abdominal pain, or
  • nausea or vomiting with any of the following:
  • weight loss
  • reflux
  • dyspepsia
  • upper abdominal pain.
Upper GI

Gall bladder cancer
Consider an urgent direct access ultrasound scan (to be performed within 2 weeks) to assess for gall bladder cancer in people with an upper abdominal mass consistent with an enlarged gall bladder.

Liver cancer
Consider an urgent direct access ultrasound scan (to be performed within 2 weeks) to assess for liver cancer in people with an upper abdominal mass consistent with an enlarged liver.

Pancreatic cancer
Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for pancreatic cancer if they are aged 40 and over and have jaundice.
Consider an urgent direct access CT scan (to be performed within 2 weeks), or an urgent ultrasound scan if CT is not available, to assess for pancreatic cancer in people aged 60 and over with weight loss and any of the following:

- diarrhoea
- back pain
- abdominal pain
- nausea
- vomiting
- constipation
- new-onset diabetes.
Prostate cancer

Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) for prostate cancer if their prostate feels malignant on digital rectal examination.

Consider a prostate-specific antigen (PSA) test and digital rectal examination to assess for prostate cancer in men with:

- any lower urinary tract symptoms, such as nocturia, urinary frequency, hesitancy, urgency or retention or erectile dysfunction or visible haematuria.

Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) for prostate cancer if their PSA levels are above the age-specific reference range.

Bladder cancer

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for bladder cancer if they are aged 45 and over and have:

- unexplained visible haematuria without urinary tract infection or visible haematuria that persists or recurs after successful treatment of urinary tract infection, or
- aged 60 and over and have unexplained non-visible haematuria and either dysuria or a raised white cell count on a blood test.

Consider non-urgent referral for bladder cancer in people aged 60 and over with recurrent or persistent unexplained urinary tract infection.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>PSA Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>2.7</td>
</tr>
<tr>
<td>50-59</td>
<td>3.9</td>
</tr>
<tr>
<td>60-69</td>
<td>5.0</td>
</tr>
<tr>
<td>70-75</td>
<td>7.2</td>
</tr>
</tbody>
</table>
Renal cancer
Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for renal cancer if they are aged 45 and over and have:
• unexplained visible haematuria without urinary tract infection or
• visible haematuria that persists or recurs after successful treatment of urinary tract infection.

Testicular cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for testicular cancer in men if they have a non-painful enlargement or change in shape or texture of the testis.
Consider a direct access ultrasound scan for testicular cancer in men with unexplained or persistent testicular symptoms.

Penile cancer
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for penile cancer in men if they have either:
• a penile mass or ulcerated lesion, where a sexually transmitted infection has been excluded as a cause, or
• a persistent penile lesion after treatment for a sexually transmitted infection has been completed.
Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for penile cancer in men with unexplained or persistent symptoms affecting the foreskin or glans.
### Primary care investigations and results


<table>
<thead>
<tr>
<th>Investigation</th>
<th>Possible cancer</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blood test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised plasma viscosity or erythrocyte sedimentation rate and presentation consistent with myeloma</td>
<td>Myeloma</td>
<td>Consider very urgent protein electrophoresis and Bence-Jones protein urine test</td>
</tr>
<tr>
<td>Hypercalcaemia or leucopenia and presentation consistent with myeloma, age &gt;60 years</td>
<td>Myeloma</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Protein electrophoresis or Bence-Jones protein urine results suggest myeloma*</td>
<td>Myeloma</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Raised white cell count on blood test with unexplained non-visible haematuria (age &gt;60 years)*</td>
<td>Bladder</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Anaemia, iron deficiency, age &gt;60 years*</td>
<td>Colorectal</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Anaemia, iron deficiency, with rectal bleeding, age &lt;50 years</td>
<td>Colorectal</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Anaemia, iron deficiency, without rectal bleeding, age &lt;80 years†</td>
<td>Colorectal</td>
<td>Offer faecal occult blood testing</td>
</tr>
<tr>
<td>Anaemia, even in absence of iron deficiency, without rectal bleeding, age &gt;60 years†</td>
<td>Colorectal</td>
<td>Consider direct access ultrasound scan</td>
</tr>
<tr>
<td>Anaemia with upper abdominal pain, age ≥55 years</td>
<td>Oesophageal or stomach</td>
<td>Consider non-urgent direct access upper GI endoscopy</td>
</tr>
<tr>
<td>Anaemia with visible haematuria, women age ≥55 years</td>
<td>Endometrial</td>
<td>Consider a direct access ultrasound scan</td>
</tr>
<tr>
<td>PSA levels above the age-specific reference range, men*</td>
<td>Prostate</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>High blood glucose with visible haematuria, women age ≥55 years</td>
<td>Endometrial</td>
<td>Consider direct access ultrasound scan</td>
</tr>
<tr>
<td>Thrombocytosis with visible haematuria or vaginal discharge (unexplained), women age ≥55 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombocytosis with nausea or vomiting or weight loss or reflux or dyspepsia or upper abdominal pain, age ≥55 years</td>
<td>Oesophageal or stomach</td>
<td>Consider non-urgent direct access upper GI endoscopy</td>
</tr>
<tr>
<td>Thrombocytosis, age ≥40 years</td>
<td>Lung</td>
<td>Consider urgent chest x ray</td>
</tr>
<tr>
<td>Positive occult blood in faeces*</td>
<td>Colorectal</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>Imaging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest x ray suggests lung cancer or mesothelioma*</td>
<td>Lung or mesothelioma</td>
<td>Refer using suspected cancer pathway</td>
</tr>
<tr>
<td>X ray suggests bone sarcoma</td>
<td>Bone sarcoma</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
<tr>
<td>Ultrasound findings suggestive of soft tissue sarcoma or are uncertain and clinical concern persists</td>
<td>Soft tissue sarcoma</td>
<td>Consider suspected cancer pathway referral</td>
</tr>
</tbody>
</table>
NICE NG12 Suspected cancer: recognition and referral
Tumour group summary

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