

# NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

## Guideline scope

### Prostate cancer: diagnosis and management (update)

This guideline will update the NICE guideline on Prostate cancer: diagnosis and management (CG175). To see which areas will be covered in this update, see the [proposed outline for the guideline](#).

The guideline will be developed using the methods and processes outlined in [Developing NICE guidelines: the manual](#).

This guideline will also be used to update the NICE [quality standard](#) for prostate cancer.

#### **1 Why the update is needed**

New evidence that could affect existing recommendations was identified through an exceptional surveillance review. Full details are set out in the [surveillance review decision](#).

#### ***Why the guideline is needed***

#### **Key facts and figures**

Prostate cancer is the most common cancer in men, and the second most common cancer in the UK. In 2014 there were over 46,000 new diagnoses of prostate cancer, which accounts for 13% of all new cancers diagnosed. About 1 in 8 men will get prostate cancer at some point in their life.

Prostate cancer can also affect transgender women, as the prostate is usually conserved after gender-confirming surgery, but it is not clear how common it is in this population.

More than 50% of prostate cancer diagnoses in the UK each year are in men aged 70 years and over (2012), and the incidence rate is highest in men aged 90 years and over (2012–2014). Out of every 10 prostate cancer cases, 4 are only diagnosed at a late stage in England (2014) and Northern Ireland (2010–2014). Incidence rates are projected to rise by 12% between 2014 and 2035 in the UK to 233 cases per 100,000 in 2035.

A total of 84% of men aged 60–69 years at diagnosis in 2010–2011 are predicted to survive for 10 or more years after diagnosis. When diagnosed at the earliest stage, virtually all men with prostate cancer survive 5 years or more: this is compared to less than a third of men surviving 5 years or more when diagnosed at the latest stage.

There were approximately 11,000 deaths from prostate cancer in 2014. Mortality rates from prostate cancer are highest in men aged 90 years and over (2012–2014). Over the past decade, mortality rates have decreased by more than 13% in the UK. Mortality rates are projected to fall by 16% between 2014 and 2035 to 48 deaths per 100,000 men in 2035.

Men of African family origin are at higher risk of prostate cancer (lifetime risk of approximately 1 in 4). Prostate cancer is inversely associated with deprivation, with a higher incidence of cases found in more affluent areas of the UK.

Costs for the inpatient treatment of prostate cancer are predicted to rise to £320.6 million per year in 2020 (from £276.9 million per year in 2010).

## **Current practice**

### *Diagnosis and staging*

Initial findings from a urine sample, prostate-specific antigen (PSA) test and digital rectal examination are used to decide if further tests may be needed. If suspicion of prostate cancer is high, a person would then usually go onto have a trans-rectal ultrasound guided biopsy (TRUS) to confirm the diagnosis. However, because the location of the cancer is not known when the biopsy is completed, TRUS biopsies can miss up to 1 in 4 cancers.

Since the last update of the prostate cancer guidance in 2014, new research has been published on using imaging at initial diagnosis or subsequent assessment to improve diagnosis of prostate cancer. This has led to some settings using multiparametric or functional MRI imaging to aid in the diagnosis and surveillance of prostate cancer.

### *Treatment*

The treatment of prostate cancer varies, depending on a person's circumstances. Factors that affect preferred treatment options include:

- a person's general health
- the type and size of the cancer
- the grade of the cancer
- whether the cancer has spread to other parts of a person's body
- a person's preference.

New evidence published since the publication of the 2014 guidance indicates that developments in the following areas may change clinical practice:

- the use of multiparametric/functional MRI in the diagnosis and surveillance of prostate cancer
- treatment of localised prostate cancer: active surveillance, radical prostatectomy or radical radiotherapy
- use of docetaxel added to the standard treatment for hormone-sensitive metastatic prostate cancer and hormone-sensitive locally-advanced prostate cancer
- changes to the optimal dose and fractionation schedule of radiotherapy treatment in people with localised prostate cancer.

It was also identified that there is a lack of clarity over follow-up for people who have undergone radical therapy for prostate cancer.

## **Policy, legislation, regulation and commissioning**

### *MRI/imaging for diagnosis*

The [2016 National Prostate Cancer Audit \(NPCA\)](#) highlighted that new biopsy methods are being introduced, but TRUS biopsy remains most commonly used (85% of diagnoses). Multiparametric MRI is being used more frequently in diagnosis, with 65% of men having MRI before they have a biopsy. The NPCA (2016) concluded that providers need to think about whether and when to use MRI in the diagnostic pathway.

### *Docetaxel*

NHS England (2016) released a [Clinical Commissioning Policy Statement on Docetaxel in combination with androgen deprivation therapy \(ADT\) for the treatment of hormone naïve metastatic prostate cancer](#). NHS England reviewed the evidence and concluded that the survival benefit from starting docetaxel at the same time (or within 12 weeks) as ADT was sufficient to fund this treatment for hormone-naïve metastatic prostate cancer.

### *Radiotherapy*

NHS England (2016) have recommended that stereotactic ablative body radiotherapy (SABR) and proton beam therapy should not be routinely commissioned for men with localised prostate cancer, based on the results of recent clinical trials. This is not reflected by the current recommendations on radiotherapy in CG175.

## **2 Who the guideline is for**

This guideline is for:

- healthcare professionals in the NHS
- commissioners and providers of prostate cancer services.

It may also be relevant for:

- voluntary organisations and patient support groups

People with suspected or diagnosed prostate cancer, their families and carers and the public will be able to use the guideline to find out more about what NICE recommends, and help them make decisions.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#) and [Northern Ireland Executive](#).

### ***Equality considerations***

NICE has carried out [an equality impact assessment](#) during scoping. The assessment:

- lists equality issues identified, and how they have been addressed
- explains why any groups are excluded from the scope.

Following the equalities impact assessment, the following equalities issues were identified as potentially requiring particular consideration: age, ethnicity, transgender women and difficulty speaking or reading English.

## **3 What the updated guideline will cover**

### **3.1 *Who is the focus?***

#### **Groups that will be covered**

- People referred from primary care for investigation of possible prostate cancer, in line with '[Referral guidelines for suspected cancer](#)'
- People with a confirmed diagnosis of primary adenocarcinoma of the prostate, or an agreed clinical diagnosis<sup>1</sup> if biopsy is inappropriate.

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<sup>1</sup> Agreed clinical diagnosis on the basis of, for example, digital rectal examination, high PSA levels and known metastases.

### **Groups that will not be covered**

- Asymptomatic people with an abnormal PSA level who are not referred for subsequent investigation.
- People with metastatic disease of different primary origin involving the prostate.
- People with rare malignant tumours of the prostate, such as small cell carcinoma and rhabdomyosarcoma.

### **3.2 Settings**

#### **Settings that will be covered**

- All settings where NHS-funded care is provided.

### **3.3 Activities, services or aspects of care**

#### **Key areas that will be covered in this update**

We will look at evidence in the areas below when developing this update. We will consider making new recommendations or updating existing recommendations in these areas only.

- 1 Assessment, diagnosis and staging of prostate cancer
  - The most clinical and cost- effective pathway for diagnosis, including the role of multiparametric or functional MRI, transperineal template biopsy and TRUS biopsy in the diagnosis of prostate cancer.
- 2 Treatment of prostate cancer
  - the role of multiparametric or functional MRI in the active surveillance of prostate cancer.
  - treatment of localised prostate cancer: active surveillance, radical prostatectomy or radical radiotherapy.
  - the optimal dose and fractionation schedule of radical radiotherapy in localised prostate cancer.
  - the use of docetaxel in hormone-sensitive locally-advanced prostate cancer and hormone-sensitive metastatic prostate cancer.

- the use of bisphosphonates in bone-targeted therapy.

### 3 Follow-up

- follow-up protocols for people with raised PSA, negative MRI and/ or negative biopsy.
- follow-up protocols after radical treatment of prostate cancer.

In addition, we will remove the existing recommendation 1.5.19 on the use of strontium-89 for men with hormone-relapsed prostate cancer and painful bone metastases, as it has been superseded by a related technology appraisal (see 'NICE guidance that will be reviewed and may be incorporated unchanged in this guideline)

Note that guideline recommendations for medicines will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a medicine's summary of product characteristics to inform decisions made with individual patients.

### **Proposed outline for the guideline**

The table below outlines all the areas that will be included in the guideline. It sets out what NICE plans to do for each area in this update.

Area in the guideline	What NICE plans to do
1.1 Information and decision support	
Information  Decision support	No review of the evidence: retain recommendations from the existing guideline.
1.2 Assessment	
Diagnosis <ul style="list-style-type: none"> <li>• Biopsy</li> <li>• MRI for re-biopsy</li> </ul> Staging	Review the evidence: update the existing recommendations related to the role of multiparametric or functional MRI, MRI- influenced TRUS biopsy, TRUS biopsy alone or template biopsy alone in the diagnosis of prostate cancer.  For all other areas in this section there will not be a review of the evidence: the recommendations from the existing guideline will be retained.
1.3 localised and locally-advanced prostate cancer	
Low risk prostate cancer <ul style="list-style-type: none"> <li>• active surveillance</li> <li>• radical treatment</li> </ul>	Review the evidence for treatment options after risk stratification in localised prostate cancer; review the evidence for multiparametric or functional MRI, MRI- influenced TRUS biopsy, TRUS biopsy alone or template biopsy alone in active surveillance: update the existing recommendations as needed.
Intermediate and high risk prostate cancer <ul style="list-style-type: none"> <li>• active surveillance</li> <li>• radical treatment</li> <li>• watchful waiting</li> </ul>	Review the evidence for treatment options after risk stratification in localised prostate cancer; review the evidence for multiparametric or functional MRI, MRI- influenced TRUS biopsy, TRUS biopsy alone or template biopsy alone in active surveillance: update the existing recommendations as needed.
Locally-advanced prostate cancer	Review the evidence for docetaxel in hormone-sensitive locally-advanced prostate cancer only: update the existing recommendations as needed  For all other areas in this section there will not be a review of the evidence: the recommendations from the existing guideline will be retained.



<p>Managing adverse effects of radical treatment</p> <ul style="list-style-type: none"> <li>• sexual dysfunction</li> <li>• urinary incontinence</li> <li>• radiation induced enteropathy</li> </ul>	<p>No review of the evidence: retain the recommendations from the existing guideline.</p>
<p>Follow-up</p>	<p>Review the evidence for follow-up protocols in people with suspected prostate cancer who have a raised PSA, a negative MRI and/ or negative biopsy; and review the evidence for follow-up protocols after radical treatment: update the existing recommendations as needed.</p>
<p>Management of relapse after radical treatment</p>	<p>No review of the evidence: retain the recommendations from the existing guideline.</p>
<p>1.4 Men having hormone therapy</p>	
<p>Management of adverse effects of hormone therapy:</p> <ul style="list-style-type: none"> <li>• hot flushes</li> <li>• sexual dysfunction</li> <li>• osteoporosis</li> <li>• gynaecomastia</li> <li>• fatigue</li> </ul>	<p>No review of the evidence: retain the recommendations from the existing guideline.</p>
<p>1.5 Metastatic prostate cancer</p>	
<p>Metastatic prostate cancer:</p> <ul style="list-style-type: none"> <li>• information and support</li> <li>• treatment</li> <li>• hormone-relapsed metastatic prostate cancer</li> <li>• bone-targeted therapy</li> <li>• pelvic-targeted therapy</li> </ul>	<p>Review the evidence for docetaxel in hormone-sensitive metastatic prostate cancer. Review the evidence for bisphosphonates in bone-targeted therapy for hormone-relapsed metastatic prostate cancer: update the existing recommendations as needed.</p> <p>Remove the recommendation on strontium—9 for men with hormone-relapsed prostate cancer and painful bone metastases</p> <p>For all other areas in this section there will not be a review of the evidence: the recommendations from the existing guideline will be retained.</p>

Recommendations in areas that are being retained from the existing guideline may be edited to ensure that they meet current editorial standards, and reflect the current policy and practice context.

## Areas not covered by the guideline

These areas will not be covered by the guideline.

- 1 Referral from primary care with suspected prostate cancer
  - This is covered by the NICE guideline on [Suspected cancer: recognition and referral](#) (2015)
- 2 Screening for prostate cancer
  - This is covered by the UK National Screening Committee.

## Related NICE guidance

- [Biodegradable spacer insertion to reduce rectal toxicity during radiotherapy for prostate cancer](#) (publication date to be confirmed) NICE interventional procedures guidance
- [Use of a hydrogel perirectal spacer during radiotherapy for prostate cancer](#) (publication date to be confirmed) NICE interventional procedures guidance
- [Abiraterone for treating newly diagnosed metastatic hormone-naive prostate cancer \[ID945\]](#) (publication expected September 2018) NICE technology appraisal guidance
- [Prostate cancer \(localised\)- padeliporfin \[ID866\]](#) (publication expected August 2018) NICE interventional procedures guidance
- [Suspected cancer](#) (2016) NICE quality standard QS124
- [Irreversible electroporation for treating prostate cancer](#) (2016) NICE interventional procedures guidance 572
- [Radium-223 dichloride for treating hormone-relapsed prostate cancer with bone metastases](#) (2016) NICE technology appraisal guidance 412
- [Degarelix for treating advanced hormone-dependent prostate cancer](#) (2016) NICE technology appraisal guidance 404
- [Cabazitaxel for hormone-relapsed metastatic prostate cancer treated with Docetaxel](#) (2016) NICE technology appraisal guidance 391
- [Abiraterone for treating metastatic hormone-relapsed prostate cancer before chemotherapy is indicated](#) (2016) NICE technology appraisal guidance 387
- [Enzalutamide for treating metastatic hormone-relapsed prostate cancer](#)

- [before chemotherapy is indicated](#) (2016) NICE technology appraisal guidance 377
- [Diagnosing prostate cancer: PROGENSA PCA3 assay and Prostate Health Index](#) (2015) NICE diagnostics guidance 17
  - [Prostate cancer](#) (2015) NICE quality standard 91
  - [Suspected cancer: recognition and referral](#) (2015) NICE guideline NG12
  - [Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours](#) (2012) NICE technology appraisal guidance 265
  - [Focal therapy using high-intensity focused ultrasound for localised prostate cancer](#) (2012) NICE interventional procedures guidance 424
  - [Focal therapy using cryoablation for localised prostate cancer](#) (2012) NICE interventional procedures guidance 423
  - [Transperineal template biopsy and mapping of the prostate](#) (2010) NICE interventional procedures guidance 364
  - [Intraoperative red blood cell salvage during radical prostatectomy or radical cystectomy](#) (2008) NICE interventional procedures guidance 25
  - [Laparoscopic radical prostatectomy](#) (2006) NICE interventional procedures guidance 193
  - [High dose rate brachytherapy in combination with external-beam radiotherapy for localised prostate cancer](#) (2006) NICE interventional procedures guidance 174
  - [Docetaxel for the treatment of hormone-refractory metastatic prostate cancer](#) (2006) NICE technology appraisal guidance 101
  - [Cryotherapy as a primary treatment for prostate cancer](#) (2005) NICE interventional procedures guidance 145
  - [Low dose rate brachytherapy for localised prostate cancer](#) (2005) NICE interventional procedures guidance 132
  - [Cryotherapy for recurrent prostate cancer](#) (2005) NICE interventional procedures guidance 119
  - [High-intensity focused ultrasound for prostate cancer](#) (2005) NICE interventional procedures guidance 118

- [Improving supportive and palliative care for adults with cancer](#) (2004) NICE cancer service guideline 4
- [Improving outcomes in urological cancers](#) (2002) NICE cancer service guideline 2

***NICE guidance that will be updated by this guideline***

- [Prostate cancer: diagnosis and management](#) (2014) NICE guideline CG175

***NICE guidance that will be reviewed and may be incorporated unchanged in this guideline***

- [Radium-223 dichloride for treating hormone-relapsed prostate cancer with bone metastases](#) (2016) NICE technology appraisal guidance 412
- [Enzalutamide for metastatic hormone-relapsed prostate cancer previously treated with a docetaxel-containing regimen](#) (2014) NICE technology appraisal guidance 316
- [Abiraterone for castration-resistant metastatic prostate cancer previously treated with a docetaxel-containing regimen](#) (2012) NICE technology appraisal guidance 259

**NICE guidance about the experience of people using NHS services**

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to prostate cancer:

- [Medicines optimisation](#) (2015) NICE guideline NG5
- [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- [Service user experience in adult mental health](#) (2011) NICE guideline CG136
- [Medicines adherence](#) (2009) NICE guideline CG76

### **3.4 Economic aspects**

We will take economic aspects into account when making recommendations. For each review question (or key area in the scope) for which the evidence is

being reviewed, we will develop an economic plan that states whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using an NHS and personal social services (PSS) perspective, as appropriate.

### **3.5 Key issues and questions**

While writing the scope for this updated guideline, we have identified the following key issues and draft questions related to them:

- 1 Diagnosis and staging of prostate cancer
  - 1.1 Which of the following, alone or in combination, constitutes the most clinical and cost- effective pathway for diagnosing prostate cancer:
    - Multiparametric/ functional MRI
    - TRUS biopsy
    - Transperineal template biopsy?
- 2 Treatment of prostate cancer
  - 2.1 What is the clinical and cost- effectiveness of active surveillance, radical prostatectomy or radical radiotherapy compared to each other for people with localised prostate cancer?
  - 2.2 Which of the following, alone or in combination, constitutes the most clinical and cost- effective pathway for excluding the clinically significant progression of prostate cancer in people with low to intermediate risk (as defined in NICE CG175)
    - Multiparametric/ functional MRI
    - TRUS biopsy
    - Transperineal template biopsy?
  - 2.3 What is the optimal dose and fractionation schedule for people with localised prostate cancer (T1b–T3a N0 M0) who are treated with radical radiotherapy?
  - 2.4 What is the most clinically- and cost-effective scheduling of docetaxel added to standard treatment for the treatment of hormone-sensitive locally-advanced prostate cancer?

2.5 What is the most clinically- and cost-effective scheduling of docetaxel added to standard treatment for the treatment of hormone-sensitive metastatic prostate cancer?

2.6 What is the clinical and cost- effectiveness of the use of bisphosphonates in people with hormone- relapsed metastatic prostate cancer?

### 3 Follow-up protocols for prostate cancer treatment

3.1 What is the most clinically- and cost-effective follow-up protocol for people who have a raised PSA, negative MRI and/ or negative biopsy?

3.2 What is the most clinically- and cost-effective follow-up protocol for people with prostate cancer who have had radical treatment, with specific regard to:

- duration of follow-up
- frequency of follow-up appointments
- the type of examination or blood tests
- the respective roles of primary and secondary care in follow-up?

## 3.6 ***Main outcomes***

The main outcomes that will be considered when searching for and assessing the evidence are:

- 1 all-cause mortality
- 2 prostate-cancer-specific mortality
- 3 treatment-related mortality
- 4 metastasis-free survival
- 5 health-related quality of life (for example: EORTC, EPIC instrument)
- 6 diagnosis-related morbidity
- 7 treatment-related morbidity
- 8 number of severe adverse events
- 9 number of dropouts because of adverse events
- 10 utility outcomes relevant to the use of MRI in diagnosis and surveillance, including patient experience and resource use
- 11 bone pain or fracture

## 4 NICE quality standards and NICE Pathways

### 4.1 NICE quality standards

**NICE quality standards that may need to be revised or updated when this guideline is published**

- [Prostate cancer](#) (2015) NICE quality standard 91

### 4.2 NICE Pathways

When this guideline is published, the recommendations will be added to NICE Pathways. NICE Pathways bring together all related NICE guidance and associated products on a topic in an interactive flowchart. The existing [prostate cancer flowchart](#) will be reviewed and amended to integrate the updated recommendations.

## 5 Further information

This is the final scope, incorporating comments from registered stakeholders during consultation.

The guideline is expected to be published in January 2019.

You can follow progress of the [guideline](#).

Our website has information about how [NICE guidelines](#) are developed.