NHS
National Institute for Health and Clinical Excellence

Quick reference guide

Issue date: February 2008

Prostate cancer

Diagnosis and treatment

NICE clinical guideline 58
Developed by the National Collaborating Centre for Cancer

About this booklet

This is a quick reference guide that summarises the recommendations NICE has made to the NHS in 'Prostate cancer: diagnosis and treatment' (NICE clinical guideline 58).

Who should read this booklet?

This quick reference guide is for healthcare professionals and other staff who care for men with prostate cancer.

Who wrote the guideline?

The guideline was developed by the National Collaborating Centre for Cancer, which is based at the Velindre NHS Trust in Cardiff. The Collaborating Centre worked with a group of healthcare professionals (including consultants and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

For more information on how NICE clinical guidelines are developed, go to www.nice.org.uk

Where can I get more information about the guideline?

The NICE website has the recommendations in full, reviews of the evidence they are based on, a summary of the guideline for patients and carers, and tools to support implementation (see back cover for more details).

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This guidance is written in the following context

NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Contents

Patient-centred care and communication

Treatment and care should take into account men's individual needs and preferences. Good communication is essential, supported by evidence-based information, to allow men to reach informed decisions about their care. Follow Department of Health advice on seeking consent if needed. If the patient agrees, partners, families and carers should have the opportunity to be involved in decisions about treatment and care.

Follow the communication recommendations given in 'Improving outcomes in urological cancers' and 'Improving supportive and palliative care for adults with cancer' (NICE cancer service guidance).

Advise on sources of information and support, including cancer information services, support groups and websites (for example, UK Prostate Link – www.prostate-link.org.uk). Check their content is clear, reliable and up-to-date and seek feedback on their quality.

Key priorities for implementation

- Healthcare professionals should adequately inform men with prostate cancer and their partners or carers about the effects of prostate cancer and the treatment options on their sexual function, physical appearance, continence and other aspects of masculinity. Healthcare professionals should support men and their partners or carers in making treatment decisions, taking into account the effects on quality of life as well as survival.
- To help men decide whether to have a prostate biopsy, healthcare professionals should discuss with them their prostate specific antigen (PSA) level, digital rectal examination (DRE) findings (including an estimate of prostate size) and comorbidities, together with their risk factors (including increasing age and black African or black Caribbean ethnicity) and any history of a previous negative prostate biopsy. The serum PSA level alone should not automatically lead to a prostate biopsy.
- Men with low-risk localised prostate cancer who are considered suitable for radical treatment should first be offered active surveillance.
- Men undergoing radical external beam radiotherapy for localised prostate cancer[1] should receive a minimum dose of 74 Gy to the prostate at no more than 2 Gy per fraction.
- Healthcare professionals should ensure that men and their partners have early and ongoing access to specialist erectile dysfunction services.
- Healthcare professionals should ensure that men with troublesome urinary symptoms after treatment have access to specialist continence services for assessment, diagnosis and conservative treatment. This may include coping strategies, along with pelvic floor muscle re-education, bladder retraining and pharmacotherapy.
- Healthcare professionals should refer men with intractable stress incontinence to a specialist surgeon for consideration of an artificial urinary sphincter.
- Biochemical relapse (a rising PSA) alone should not necessarily prompt an immediate change in treatment.
- Hormonal therapy is not routinely recommended for men with prostate cancer who have a biochemical relapse unless they have:
  - symptomatic local disease progression, or
  - any proven metastases, or
  - a PSA doubling time < 3 months.
- When men with prostate cancer develop biochemical evidence of hormone-refractory disease, their treatment options should be discussed by the urological cancer multidisciplinary team (MDT) with a view to seeking an oncologist and/or specialist palliative care opinion, as appropriate.
- Healthcare professionals should ensure that palliative care is available when needed and is not limited to the end of life. It should not be restricted to being associated with hospice care.

[1] This may also apply to some men with locally advanced prostate cancer.

Diagnosing prostate cancer

Before referral to specialist care, men with suspected prostate cancer should have been offered a DRE and PSA test as set out in 'Referral guidelines for suspected cancer' (NICE clinical guideline 27).

Biopsy

- Provide information, support and allow sufficient time for the man to decide whether to have a biopsy.
- Discuss:
  - the risks and benefits of biopsy
  - their individual risk factors (including increasing age and black African or black Caribbean ethnicity)
  - their estimated prostate size, DRE findings and PSA level
  - any comorbidities
  - any previous negative biopsy.
- Use nomograms to help with decision making and to predict the biopsy results. Explain their reliability and limitations.
- Do not biopsy:
  - on the basis of serum PSA level alone
  - if suspicion of prostate cancer is high because of PSA level and evidence of bone metastases, unless required as part of a clinical trial.

If the man chooses biopsy, perform according to 'Undertaking a transrectal ultrasound guided biopsy of the prostate' (Prostate Cancer Risk Management Programme 2006).

Biopsy results and re-biopsy

- The urological cancer MDT should review the biopsy results.
- After a negative biopsy result the urological cancer MDT should review the man's risk (life expectancy, PSA level, DRE findings and estimated prostate size) and discuss with him the risks and benefits of a re-biopsy.

Before starting treatment

- Discuss all relevant management options.
- Inform men that treatment may result in:
  - altered physical appearance
  - altered sexual experience
  - possible loss of sexual function, ejaculation and fertility
  - changes in urinary function.
- Support men in making treatment decisions, taking into account survival and quality of life benefits. Use a decision aid.[2]
- Advise men about the potential long-term adverse effects of treatment and when and how to report them.
- Offer:
  - sperm storage
  - ongoing access to erectile dysfunction services
  - ongoing access to specialist continence services
  - ongoing access to specialist psychosexual services
  - a urological assessment if troublesome urinary symptoms are present.
- Assign a risk category to men with localised prostate cancer.

Table 1 Risk stratification criteria for men with localised prostate cancer. Men with clinical stage T3–T4 cancers have locally advanced disease (see page 8).

	PSA (ng/ml)		Gleason score		Clinical stage
Low risk	< 10	**and**	≤ 6	**and**	T1–T2a
Intermediate risk	10–20	**or**	7	**or**	T2b–T2c
High risk	> 20	**or**	8–10	**or**	T3–T4

Imaging

- Do not routinely image men for whom no radical treatment is intended.
- If men with high-risk localised and locally advanced prostate cancer intend to have radical treatment, offer pelvic magnetic resonance imaging (MRI) or computerised tomography, if MRI is contraindicated.
- Perform bone scan if hormonal therapy is being deferred through watchful waiting in asymptomatic men at high risk of bone complications.
- Positron emission tomography and magnetic resonance spectroscopy (MRS) are not recommended in routine clinical practice. MRS may be performed as part of a clinical trial.

[2] A decision aid for men with localised prostate cancer is in development by the Urology Informed Decision Making Steering Group (publication expected 2008).

Localised prostate cancer

Key:
✔ preferred treatment
◆ treatment option
✗ not recommended

Table 2 Treatment and management options for men with localised prostate cancer.

		Low risk	Intermediate risk	High risk
	Watchful waiting	◆	◆	◆
	Active surveillance	✔	◆	✗
Radical treatments	Prostatectomy	◆	✔	✔*
	Brachytherapy	◆	◆	✗
	Conformal radiotherapy†	◆	✔	✔*
	Cryotherapy	✗‡	✗‡	✗‡
	High-intensity focused ultrasound	✗‡	✗‡	✗‡

* Offer if there is a realistic prospect of long-term disease control
† Conformal radiotherapy should be given at a minimum dose of 74 Gy (at a maximum of 2 Gy per fraction)
‡ Unless as part of a clinical trial comparing use with established interventions

Watchful waiting

- If men choose watchful waiting and show evidence of disease progression, they should be reviewed by a member of the urological cancer MDT.

Active surveillance

- Active surveillance is the preferred option for low-risk men who are candidates for radical treatment. It is particularly suitable for men with clinical stage T1c, Gleason score 3+3 and PSA density < 0.15 ng/ml/ml who have cancer in less than 50% of their biopsy cores, with < 10 mm of any core involved.
- Candidates for active surveillance should:
  - have had at least 10 biopsy cores taken
  - have at least one re-biopsy which may be performed according to the ProSTART protocol.[3]
- If men on active surveillance show evidence of disease progression, offer radical treatment. Treatment decisions should be made with the man, taking into account comorbidities and life expectancy.

Radical treatments

- All candidates for radical treatment should have the opportunity to discuss their treatment options with a surgical oncologist and a clinical oncologist.
- Offer adjuvant hormonal therapy for a minimum of 2 years to men receiving radiotherapy who have a Gleason score of ≥ 8.

[3] Phase III randomized study of active surveillance versus radical treatment in patients with favorable-risk prostate cancer (www.cancer.gov/clinicaltrials/CAN-NCIC-CTG-PR11).

Locally advanced prostate cancer

- Offer:
  - neoadjuvant and concurrent luteinising hormone-releasing hormone agonist (LHRHa) therapy for 3–6 months to men receiving radiotherapy
  - adjuvant hormonal therapy for a minimum of 2 years to men receiving radiotherapy who have a Gleason score of ≥ 8.
- Consider pelvic radiotherapy for men with > 15% risk of pelvic lymph node involvement who are to receive neoadjuvant hormonal therapy and radiotherapy. Estimate risk using the Roach formula: 2/3 PSA + (10 x [Gleason score – 6]).
- Do not offer:
  - adjuvant hormonal therapy in addition to prostatectomy, even to men with margin-positive disease (unless as part of a clinical trial)
  - bisphosphonates to prevent bone metastases
  - immediate post-operative radiotherapy routinely after prostatectomy, even to men with margin-positive disease (unless as part of a clinical trial)
  - high-intensity focused ultrasound (HIFU) or cryotherapy (unless as part of a clinical trial).

Metastatic prostate cancer

- Offer:
  - bilateral orchidectomy as an alternative to continuous LHRHa therapy
  - monotherapy with bicalutamide (150 mg)[4] if the man hopes to retain sexual function and is willing to accept gynaecomastia and reduced survival
  - androgen withdrawal in place of bicalutamide, if bicalutamide is not successful in retaining sexual function. Advise that regular resistance exercise reduces fatigue and improves quality of life.
- Consider offering intermittent androgen withdrawal, providing the man is informed about the lack of long-term effectiveness evidence.
- Do not offer combined androgen blockade as a first-line treatment.

Hormone-refractory prostate cancer

- Discuss treatment options with the urological cancer MDT and seek oncology and/or palliative care advice, as appropriate.
- Offer:
  - docetaxel (within its licensed indications) only if Karnofsky score is ≥ 60%. Stop treatment after 10 planned cycles or if severe adverse events occur or if disease progresses (shown by clinical or laboratory criteria or imaging). Do not repeat treatment cycles if disease recurs[5]
  - a corticosteroid (for example, dexamethasone 0.5 mg daily) as a third-line therapy after androgen withdrawal and anti-androgen therapy
  - spinal MRI if spinal metastases are found and spine-related symptoms develop
  - decompression of the urinary tract by percutaneous nephrostomy or insertion of a double J stent to men with obstructive uropathy. Discuss the option of no intervention.
- Do not offer:
  - routine spinal MRI to men with known bone metastases
  - bisphosphonates to prevent or reduce the complications of bone metastases.

Palliative care

- Discuss the man's preferences for palliative care (and those of his partner and carers) as soon as possible.
- Identify the preferred place of care.
- Do not limit palliative care to hospice care; integrate into coordinated care and ensure it is available when needed.
- Offer:
  - tailored information and treatment and care plan
  - access to specialist urology and palliative care teams to discuss changes in disease status or symptoms
  - a regular assessment of the man's needs.

[4] At the time of publication bicalutamide did not have UK marketing authorisation for this indication. Informed consent should be obtained and documented.
[5] This recommendation is summarised from NICE technology appraisal guidance 101 (www.nice.org.uk/TA101).

Follow-up

- Discuss purpose, duration, frequency and location of follow-up with the man and his partner or carers.
- Follow up men who choose watchful waiting in primary care and measure their PSA at least annually.
- Check PSA levels of men who are having radical treatment:
  - at least 6 weeks after treatment
  - at least every 6 months for the first 2 years
  - at least once a year after the first 2 years.
- Do not carry out routine DRE while PSA remains at baseline levels.
- After 2 years, offer follow-up outside hospital to men with stable PSA and no treatment complications (unless clinic-based follow-up is required as part of a clinical trial). Ensure the man has access to the urological cancer MDT.

Managing relapse after radical treatment

- Analyse serial PSA using the same assay technique.
- Perform biopsy after radiotherapy only in men considered for local salvage therapy as part of a clinical trial.
- If biochemical relapse (rising PSA) is identified:
  - estimate PSA doubling time (using at least 3 measurements over 6 months)
  - offer radiotherapy of the prostatic bed to men who have had a prostatectomy and have no metastases
  - consider man for entry into an appropriate clinical trial.[6]
- Perform an isotope bone scan if symptoms or PSA trends suggest metastases and the man is considering salvage therapy.
- Do not change treatment based on biochemical relapse alone.
- Do not offer:
  - biopsy of the prostatic bed to men who have had prostatectomy
  - routine MRI before salvage radiotherapy
  - hormonal therapy, unless the man has symptomatic disease progression, proven metastases or a PSA doubling time < 3 months.

[6] For example, RADICALS (Radiotherapy and androgen deprivation in combination after local surgery; www.ctu.mrc.ac.uk/studies/PR10.asp).

Managing the side effects of treatment

Radiation-induced damage

- Use flexible sigmoidoscopy to investigate symptoms of radiation-induced enteropathy to exclude inflammatory bowel disease or cancer of the large bowel.
- Offer flexible sigmoidoscopy every 5 years after radical radiotherapy.
- Take care when performing anterior wall rectal biopsy after brachytherapy because of the risk of fistulation.
- Do not offer steroid enemas for treating radiation proctopathy.
- Radiation-induced injury to the gastrointestinal tract should form part of oncologists' and gastroenterologists' training.

Erectile function

- Offer phosphodiesterase type 5 (PDE5) inhibitors to men who experience loss of erectile function. If PDE5 inhibitors fail or are contraindicated, offer vacuum devices, intraurethral inserts, penile injections or prostheses.

Urinary symptoms

- Refer men with intractable stress incontinence to a specialist surgeon for a possible artificial urinary sphincter.
- Do not offer bulking agents to treat stress incontinence.

Side effects of hormonal treatments

- Offer oral or parenteral synthetic progestogens for hot flushes. Offer oral therapy for 2 weeks and re-start when flushes recur, if effective.
- Offer prophylactic orthovoltage or electron beam radiotherapy to breast buds (single 8 Gy fraction) within the first month of long-term (> 6 months) treatment with bicalutamide monotherapy.
- Consider weekly tamoxifen if radiotherapy does not prevent gynaecomastia.
- Do not routinely offer bisphosphonates to prevent osteoporosis in men receiving androgen withdrawal therapy.

Pain

- Consider strontium-89 for painful bone metastases in men with hormone-refractory prostate cancer, especially if they are unlikely to receive myelosuppressive chemotherapy.
- Consider bisphosphonates for pain relief in men with hormone-refractory prostate cancer when analgesics and radiotherapy have failed. Choose intravenous or oral dosing according to convenience, tolerability and cost.

Implementation tools

NICE has developed tools to help organisations implement this guidance (listed below). These are available on our website (www.nice.org.uk/CG058).

- Implementation advice on how to put the guidance into practice and national initiatives that support this locally.
- Audit support for monitoring local practice.
- Costing tools:
  - costing report to estimate the national savings and costs associated with implementation
  - costing template to estimate the local costs and savings involved.
- Slides highlighting key messages for local discussion.

Further information

Ordering information

You can download the following documents from www.nice.org.uk/CG058

- A quick reference guide (this document) – a summary of the recommendations for healthcare professionals.
- The NICE guideline – all the recommendations.
- 'Understanding NICE guidance' – information for patients and carers.
- The full guideline – all the recommendations, details of how they were developed, and reviews of the evidence they were based on.

For printed copies of the quick reference guide or 'Understanding NICE guidance', phone NICE publications on 0845 003 7783 or email publications@nice.org.uk and quote:

- N1457 (quick reference guide)
- N1458 ('Understanding NICE guidancew).

Related NICE guidance

For information about NICE guidance that has been issued or is in development, see the website (www.nice.org.uk).

Published

NICE has issued cancer service guidance on urological cancer and supportive and palliative care for adults with cancer, a clinical guideline on referral for suspected cancer (CG027), technology appraisal guidance on docetaxel for the treatment of hormone-refractory prostate cancer (TA101) and interventional procedures guidance on cryotherapy (IPG119 and IPG145), HIFU (IPG118), and low- and high-dose brachytherapy (IPG132 and IPG174) for prostate cancer.

Under development

NICE is developing clinical guidelines on metastatic spinal cord compression (publication expected November 2008), osteoporosis and lower urinary tract symptoms in men (publication dates to be confirmed).

Updating the guideline

This guideline will be updated as needed, and information about the progress of any update will be posted on the NICE website (www.nice.org.uk/CG058).

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