NICE National Institute for Health and Care Excellence

NICE guideline

Bladder cancer: diagnosis and management

NICE guideline

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Contents

This guideline is the basis of QS106.

Introduction

Bladder cancer is the seventh most common cancer in the UK. It is 3–4 times more common in men than in women. In the UK in 2011, it was the fourth most common cancer in men and the thirteenth most common in women. There were 10,399 people diagnosed with bladder cancer and 5081 deaths from bladder cancer in 2011. The majority of cases occur in people aged over 60. The main risk factor for bladder cancer is increasing age, but smoking and exposure to some industrial chemicals also increase risk.

Bladder cancer is usually identified on the basis of visible blood in the urine or blood found on urine testing, but emergency admission is a common way for bladder cancer to present, and is often associated with a poor prognosis.

Most bladder cancers (75–80%) do not involve the muscle wall of the bladder and are usually treated by telescopic removal of the cancer (transurethral resection of bladder tumour [TURBT]). This is often followed by instillation of chemotherapy or vaccine-based therapy into the bladder, with prolonged telescopic checking of the bladder (cystoscopy) as follow-up. Some people in this group who are at higher risk are treated with major surgery to remove the bladder (cystectomy). People with cancer in or through the bladder muscle wall may be treated with intent to cure using chemotherapy, cystectomy or radiotherapy, and those who have cancer too advanced to cure may have radiotherapy and chemotherapy.

The involvement of the urogenital tract and the nature of the treatments give this cancer a strong psychological impact, in addition to the physical impact of the disease and its treatments, which is often profound. The prevalence of the condition and the nature of its management make bladder cancer one of the most expensive cancers for the NHS.

There is thought to be considerable variation across the NHS in the diagnosis and management of bladder cancer and the provision of care to people who have it. There is evidence that the patient experience for people with bladder cancer is worse than that for people with other cancers.

This guideline covers adults (18 years and older) referred from primary care with suspected bladder cancer and those with newly diagnosed or recurrent bladder (urothelial carcinoma, adenocarcinoma, squamous-cell carcinoma or small-cell carcinoma) or urethral cancer. There was

insufficient high-quality evidence on which to make specific recommendations for non-urothelial bladder cancer (adenocarcinoma, squamous-cell carcinoma or small-cell carcinoma).

It does not cover people aged under 18 or adults with bladder sarcoma, urothelial cancer of the upper urinary tract, or secondary bladder or urethral cancer (for example, bowel or cervix cancer spreading into the bladder).

Medicines

The guideline assumes that prescribers will use a medicine's summary of product characteristics to inform decisions made with individual patients.

This guideline recommends some medicines for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or those with authority to give consent on their behalf) should provide informed consent, which should be documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information. Where recommendations have been made for the use of medicines outside their licensed indications ('off-label use'), these medicines are marked with a footnote in the recommendations.

Patient-centred care

This guideline offers best practice advice on the care of adults with bladder cancer.

Patients and healthcare professionals have rights and responsibilities as set out in the NHS Constitution for England – all NICE guidance is written to reflect these. Treatment and care should take into account individual needs and preferences. Patients should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. Healthcare professionals should follow the Department of Health's advice on consent. If someone does not have capacity to make decisions, healthcare professionals should follow the code of practice that accompanies the Mental Capacity Act and the supplementary code of practice on deprivation of liberty safeguards.

NICE has produced guidance on the components of good patient experience in adult NHS services. All healthcare professionals should follow the recommendations in patient experience in adult NHS services.

Key priorities for implementation

The following recommendations have been identified as priorities for implementation. The full list of recommendations is in section 1.

Information and support for people with bladder cancer

- Use a holistic needs assessment to identify an individualised package of information and support for people with bladder cancer and, if they wish, their partners, families or carers, at key points in their care such as:
  - when they are first diagnosed
  - after they have had their first treatment
  - if their bladder cancer recurs or progresses
  - if their treatment is changed
  - if palliative or end of life care is being discussed.

Diagnosing and staging bladder cancer

Diagnosis

- Consider CT or MRI staging before transurethral resection of bladder tumour (TURBT) if muscle-invasive bladder cancer is suspected at cystoscopy.
- Offer white-light-guided TURBT with one of photodynamic diagnosis, narrow-band imaging, cytology or a urinary biomarker test (such as UroVysion using fluorescence in-situ hybridization [FISH], ImmunoCyt or a nuclear matrix protein 22 [NMP22] test) to people with suspected bladder cancer. This should be carried out or supervised by a urologist experienced in TURBT.
- Offer people with suspected bladder cancer a single dose of intravesical mitomycin C given at the same time as the first TURBT.

Treating non-muscle-invasive bladder cancer

Prognostic markers and risk classification

- Ensure that for people with non-muscle-invasive bladder cancer all of the following are recorded and used to guide discussions, both within multidisciplinary team meetings and with the person, about prognosis and treatment options:
  - recurrence history
  - size and number of cancers
  - histological type, grade, stage and presence (or absence) of flat urothelium, detrusor muscle (muscularis propria), and carcinoma in situ
  - the risk category of the person's cancer
  - predicted risk of recurrence and progression, estimated using a risk prediction tool.

High-risk non-muscle-invasive bladder cancer

- Offer the choice of intravesical BCG (Bacille Calmette-Guérin) or radical cystectomy to people with high-risk non-muscle-invasive bladder cancer, and base the choice on a full discussion with the person, the clinical nurse specialist and a urologist who performs both intravesical BCG and radical cystectomy. Include in your discussion:
  - the type, stage and grade of the cancer, the presence of carcinoma in situ, the presence of variant pathology, prostatic urethral or bladder neck status and the number of tumours
  - risk of progression to muscle invasion, metastases and death
  - risk of understaging
  - benefits of both treatments, including survival rates and the likelihood of further treatment
  - risks of both treatments
  - factors that affect outcomes (for example, comorbidities and life expectancy)
  - impact on quality of life, body image, and sexual and urinary function.

Follow-up after treatment for non-muscle-invasive bladder cancer

Low-risk non-muscle-invasive bladder cancer

- Discharge to primary care people who have had low-risk non-muscle-invasive bladder cancer and who have no recurrence of the bladder cancer within 12 months.

Intermediate-risk non-muscle-invasive bladder cancer

- Offer people with intermediate-risk non-muscle-invasive bladder cancer cystoscopic follow-up at 3, 9 and 18 months, and once a year thereafter.

Treating muscle-invasive bladder cancer

Neoadjuvant chemotherapy for newly diagnosed muscle-invasive urothelial bladder cancer

- Offer neoadjuvant chemotherapy using a cisplatin combination regimen before radical cystectomy or radical radiotherapy to people with newly diagnosed muscle-invasive urothelial bladder cancer for whom cisplatin-based chemotherapy is suitable. Ensure that they have an opportunity to discuss the risks and benefits with an oncologist who treats bladder cancer.

Radical therapy for muscle-invasive urothelial bladder cancer

- Offer a choice of radical cystectomy or radiotherapy with a radiosensitiser to people with muscle-invasive urothelial bladder cancer for whom radical therapy is suitable. Ensure that the choice is based on a full discussion between the person and a urologist who performs radical cystectomy, a clinical oncologist and a clinical nurse specialist. Include in the discussion:
    - the prognosis with or without treatment
    - the limited evidence about whether surgery or radiotherapy with a radiosensitiser is the most effective cancer treatment
    - the benefits and risks of surgery and radiotherapy with a radiosensitiser, including the impact on sexual and bowel function and the risk of death as a result of the treatment.

1 Recommendations

The following guidance is based on the best available evidence. The full guideline gives details of the methods and the evidence used to develop the guidance.

> The wording used in the recommendations in this guideline (for example, words such as 'offer' and 'consider') denotes the certainty with which the recommendation is made (the strength of the recommendation). See about this guideline for details.

1.1 Information and support for people with bladder cancer

1.1.1 Follow the recommendations on communication and patient-centred care in NICE's guideline on patient experience in adult NHS services and the advice in NICE's guidelines on improving outcomes in urological cancers and improving supportive and palliative care for adults with cancer throughout the person's care.

1.1.2 Offer clinical nurse specialist support to people with bladder cancer and give them the clinical nurse specialist's contact details.

1.1.3 Ensure that the clinical nurse specialist:

- acts as the key worker to address the person's information and care needs
- has experience and training in bladder cancer care.

1.1.4 Use a holistic needs assessment to identify an individualised package of information and support for people with bladder cancer and, if they wish, their partners, families or carers, at key points in their care such as:

- when they are first diagnosed
- after they have had their first treatment
- if their bladder cancer recurs or progresses
- if their treatment is changed
- if palliative or end of life care is being discussed.

1.1.5 When carrying out a holistic needs assessment, recognise that many of the symptoms, investigations and treatments for bladder cancer affect the urogenital organs and may be distressing and intrusive. Discuss with the person:

- the type, stage and grade of their cancer and likely prognosis
- treatment and follow-up options
- the potential complications of intrusive procedures, including urinary retention, urinary infection, pain, bleeding or need for a catheter
- the impact of treatment on their sexual health and body image, including how to find support and information relevant to their gender
- diet and lifestyle, including physical activity
- smoking cessation for people who smoke
- how to find information about bladder cancer, for example through information prescriptions, sources of written information, websites or DVDs
- how to find support groups and survivorship programmes
- how to find information about returning to work after treatment for cancer
- how to find information about financial support (such as free prescriptions and industrial compensation schemes).

1.1.6 Offer smoking cessation support to all people with bladder cancer who smoke, in line with NICE's guidelines on smoking cessation services and brief interventions and referral for smoking cessation.

1.1.7 Offer people with bladder cancer and, if they wish, their partners, families or carers, opportunities to have discussions at any stage during their treatment and care with:

- a range of specialist healthcare professionals, including those who can provide psychological support
- other people with bladder cancer who have had similar treatments.

1.1.8 Clinicians caring for people with bladder cancer should ensure that there is close liaison between secondary and primary care with respect to ongoing and community-based support.

1.1.9 Trusts should consider conducting annual bladder cancer patient satisfaction surveys developed by their urology multidisciplinary team and people with bladder cancer, and use the results to guide a programme of quality improvement.

1.2 Diagnosing and staging bladder cancer

Diagnosis

1.2.1 Do not substitute urinary biomarkers for cystoscopy to investigate suspected bladder cancer or for follow-up after treatment for bladder cancer, except in the context of a clinical research study.

1.2.2 Consider CT or MRI staging before transurethral resection of bladder tumour (TURBT) if muscle-invasive bladder cancer is suspected at cystoscopy.

1.2.3 Offer white-light-guided TURBT with one of photodynamic diagnosis, narrow-band imaging, cytology or a urinary biomarker test (such as UroVysion using fluorescence in-situ hybridization [FISH], ImmunoCyt or a nuclear matrix protein 22 [NMP22] test) to people with suspected bladder cancer. This should be carried out or supervised by a urologist experienced in TURBT.

1.2.4 Obtain detrusor muscle during TURBT.

1.2.5 Do not take random biopsies of normal-looking urothelium during TURBT unless there is a specific clinical indication (for example, investigation of positive cytology not otherwise explained).

1.2.6 Record the size and number of tumours during TURBT.

1.2.7 Offer people with suspected bladder cancer a single dose of intravesical mitomycin C given at the same time as the first TURBT.

Staging

1.2.8 Consider further TURBT within 6 weeks if the first specimen does not include detrusor muscle.

1.2.9 Offer CT or MRI staging to people diagnosed with muscle-invasive bladder cancer or high-risk non-muscle-invasive bladder cancer that is being assessed for radical treatment.

1.2.10 Consider CT urography, carried out with other planned CT imaging if possible, to detect upper tract involvement in people with new or recurrent high-risk non-muscle-invasive or muscle-invasive bladder cancer.

1.2.11 Consider CT of the thorax, carried out with other planned CT imaging if possible, to detect thoracic malignancy in people with muscle-invasive bladder cancer.

1.2.12 Consider fluorodeoxyglucose positron emission tomography (FDG PET)-CT for people with muscle-invasive bladder cancer or high-risk non-muscle-invasive bladder cancer before radical treatment if there are indeterminate findings on CT or MRI, or a high risk of metastatic disease (for example, T3b disease).

1.3 Treating non-muscle-invasive bladder cancer

Risk classification in non-muscle-invasive bladder cancer

There is no widely accepted classification of risk in non-muscle-invasive bladder cancer. To make clear recommendations for management, the Guideline Development Group developed the consensus classification in the table below, based on the evidence reviewed and clinical opinion.

Risk categories in non-muscle-invasive bladder cancer

Low risk	Urothelial cancer with any of: • solitary pTaG1 with a diameter of less than 3 cm • solitary pTaG2 (low grade) with a diameter of less than 3 cm • any papillary urothelial neoplasm of low malignant potential

Intermediate risk	Urothelial cancer that is not low risk or high risk, including: • solitary pTaG1 with a diameter of more than 3 cm • multifocal pTaG1 • solitary pTaG2 (low grade) with a diameter of more than 3 cm • multifocal pTaG2 (low grade) • pTaG2 (high grade) • any pTaG2 (grade not further specified) • any low-risk non-muscle-invasive bladder cancer recurring within 12 months of last tumour occurrence
High risk	Urothelial cancer with any of: • pTaG3 • pT1G2 • pT1G3 • pTis (Cis) • aggressive variants of urothelial carcinoma, for example micropapillary or nested variants

Prognostic markers and risk classification

1.3.1 Ensure that for people with non-muscle-invasive bladder cancer all of the following are recorded and used to guide discussions, both within multidisciplinary team meetings and with the person, about prognosis and treatment options:

- recurrence history
- size and number of cancers
- histological type, grade, stage and presence (or absence) of flat urothelium, detrusor muscle (muscularis propria), and carcinoma in situ

- the risk category of the person's cancer
- predicted risk of recurrence and progression, estimated using a risk prediction tool.

Low-risk non-muscle-invasive bladder cancer

1.3.2 For the treatment of low-risk non-muscle-invasive bladder cancer, see recommendations 1.2.3–1.2.8.

Intermediate-risk non-muscle-invasive bladder cancer

1.3.3 Offer people with newly diagnosed intermediate-risk non-muscle-invasive bladder cancer a course of at least 6 doses of intravesical mitomycin C.

1.3.4 If intermediate-risk non-muscle-invasive bladder cancer recurs after a course of intravesical mitomycin C, refer the person's care to a specialist urology multidisciplinary team.

High-risk non-muscle-invasive bladder cancer

1.3.5 If the first TURBT shows high-risk non-muscle-invasive bladder cancer, offer another TURBT as soon as possible and no later than 6 weeks after the first resection.

1.3.6 Offer the choice of intravesical BCG (Bacille Calmette-Guérin) or radical cystectomy to people with high-risk non-muscle-invasive bladder cancer, and base the choice on a full discussion with the person, the clinical nurse specialist and a urologist who performs both intravesical BCG and radical cystectomy. Include in your discussion:

- the type, stage and grade of the cancer, the presence of carcinoma in situ, the presence of variant pathology, prostatic urethral or bladder neck status and the number of tumours
- risk of progression to muscle invasion, metastases and death
- risk of understaging
- benefits of both treatments, including survival rates and the likelihood of further treatment

- risks of both treatments
- factors that affect outcomes (for example, comorbidities and life expectancy)
- impact on quality of life, body image, and sexual and urinary function.

Intravesical BCG

1.3.7 Offer induction and maintenance intravesical BCG to people having treatment with intravesical BCG.

1.3.8 If induction BCG fails (because it is not tolerated, or bladder cancer persists or recurs after treatment with BCG), refer the person's care to a specialist urology multidisciplinary team.

1.3.9 For people in whom induction BCG has failed, the specialist urology multidisciplinary team should assess the suitability of radical cystectomy, or further intravesical therapy if radical cystectomy is unsuitable or declined by the person, or if the bladder cancer that recurs is intermediate- or low-risk.

Radical cystectomy

1.3.10 See recommendations 1.5.4–1.5.7 for people who have chosen radical cystectomy.

Recurrent non-muscle--nvasive bladder cancer

1.3.11 Consider fulguration without biopsy for people with recurrent non-muscle-invasive bladder cancer if they have all of the following:

- no previous bladder cancer that was intermediate- or high-risk
- a disease-free interval of at least 6 months
- solitary papillary recurrence
- a tumour diameter of 3 mm or less.

Managing side effects of treatment

1.3.12 Do not offer primary prophylaxis to prevent BCG-related bladder toxicity except as part of a clinical trial.

1.3.13 Seek advice from a specialist urology multidisciplinary team if symptoms of bladder toxicity after BCG cannot be controlled with antispasmodics or non-opiate analgesia and other causes have been excluded by cystoscopy.

1.4 Follow-up after treatment for non-muscle-invasive bladder cancer

1.4.1 Refer people urgently to urological services if they have haematuria or other urinary symptoms and a history of non-muscle-invasive bladder cancer.

1.4.2 See recommendation 1.2.1 on the use of urinary biomarkers for follow-up after treatment for bladder cancer.

Low-risk non-muscle-invasive bladder cancer

1.4.3 Offer people with low-risk non-muscle-invasive bladder cancer cystoscopic follow-up 3 months and 12 months after diagnosis.

1.4.4 Do not use urinary biomarkers or cytology in addition to cystoscopy for follow-up after treatment for low-risk bladder cancer.

1.4.5 Discharge to primary care people who have had low-risk non-muscle-invasive bladder cancer and who have no recurrence of the bladder cancer within 12 months.

1.4.6 Do not offer routine urinary cytology or prolonged cystoscopic follow-up after 12 months for people with low-risk non-muscle-invasive bladder cancer.

Intermediate-risk non-muscle-invasive bladder cancer

1.4.7 Offer people with intermediate-risk non-muscle-invasive bladder cancer cystoscopic follow-up at 3, 9 and 18 months, and once a year thereafter.

1.4.8 Consider discharging people who have had intermediate-risk non-muscle-invasive bladder cancer to primary care after 5 years of disease-free follow-up.

High-risk non-muscle-invasive bladder cancer

1.4.9 Offer people with high-risk non-muscle-invasive bladder cancer cystoscopic follow-up:

- every 3 months for the first 2 years **then**
- every 6 months for the next 2 years **then**
- once a year thereafter.

1.4.10 For people who have had radical cystectomy for high-risk non-muscle-invasive bladder cancer, see recommendations 1.6.1 and 1.6.2.

1.5 Treating muscle-invasive bladder cancer

1.5.1 Ensure that a specialist urology multidisciplinary team reviews all cases of muscle-invasive bladder cancer, including adenocarcinoma, squamous cell carcinoma and neuroendocrine carcinoma, and that the review includes histopathology, imaging and discussion of treatment options.

Neoadjuvant chemotherapy for newly diagnosed muscle-invasive urothelial bladder cancer

1.5.2 Offer neoadjuvant chemotherapy using a cisplatin combination regimen before radical cystectomy or radical radiotherapy to people with newly diagnosed muscle-invasive urothelial bladder cancer for whom cisplatin-based chemotherapy is suitable. Ensure that they have an opportunity to discuss the risks and benefits with an oncologist who treats bladder cancer.

Radical therapy for muscle-invasive urothelial bladder cancer

1.5.3 Offer a choice of radical cystectomy or radiotherapy with a radiosensitiser to people with muscle-invasive urothelial bladder cancer for whom radical therapy is suitable. Ensure that the choice is based on a full discussion between the

person and a urologist who performs radical cystectomy, a clinical oncologist and a clinical nurse specialist. Include in the discussion:

- the prognosis with or without treatment
- the limited evidence about whether surgery or radiotherapy with a radiosensitiser is the most effective cancer treatment
- the benefits and risks of surgery and radiotherapy with a radiosensitiser, including the impact on sexual and bowel function and the risk of death as a result of the treatment.

Radical cystectomy

1.5.4 Offer people who have chosen radical cystectomy a urinary stoma, or a continent urinary diversion (bladder substitution or a catheterisable reservoir) if there are no strong contraindications to continent urinary diversion such as cognitive impairment, impaired renal function or significant bowel disease.

1.5.5 Members of the specialist urology multidisciplinary team (including the bladder cancer specialist urological surgeon, stoma care nurse and clinical nurse specialist) should discuss with the person whether to have a urinary stoma or continent urinary diversion, and provide opportunities for the person to talk with people who have had these procedures.

1.5.6 Offer people with bladder cancer and, if they wish, their partners, families or carers, opportunities to have discussions with a stoma care nurse before and after radical cystectomy as needed.

Adjuvant chemotherapy after radical cystectomy for muscle-invasive or lymph-node-positive urothelial bladder cancer

1.5.7 Consider adjuvant cisplatin combination chemotherapy after radical cystectomy for people with a diagnosis of muscle-invasive or lymph-node-positive urothelial bladder cancer for whom neoadjuvant chemotherapy was not suitable (because muscle invasion was not shown on biopsies before cystectomy). Ensure that the person has an opportunity to discuss the risks and benefits with an oncologist who treats bladder cancer.

Radical radiotherapy

1.5.8 Use a radiosensitiser (such as mitomycin in combination with fluorouracil [5-FU][1] or carbogen in combination with nicotinamide[2]) when giving radical radiotherapy (for example, 64 Gy in 32 fractions over 6.5 weeks or 55 Gy in 20 fractions over 4 weeks) for muscle-invasive urothelial bladder cancer.

Managing side effects of treatment

1.5.9 Seek advice from a specialist urology multidisciplinary team if symptoms of bladder toxicity after radiotherapy cannot be controlled with antispasmodics or non-opiate analgesia and other causes have been excluded by cystoscopy.

1.6 Follow-up after treatment for muscle-invasive bladder cancer

1.6.1 Offer follow-up after radical cystectomy or radical radiotherapy.

1.6.2 After radical cystectomy consider using a follow-up protocol that consists of:

- monitoring of the upper tracts for hydronephrosis, stones and cancer using imaging and glomerular filtration rate (GFR) estimation at least annually **and**
- monitoring for local and distant recurrence using CT of the abdomen, pelvis and chest, carried out together with other planned CT imaging if possible, 6, 12 and 24 months after radical cystectomy **and**
- monitoring for metabolic acidosis and B12 and folate deficiency at least annually **and**
- for men with a defunctioned urethra, urethral washing for cytology and/or urethroscopy annually for 5 years to detect urethral recurrence.

1.6.3 After radical radiotherapy consider using a follow-up protocol that includes all of the following:

- rigid cystoscopy 3 months after radiotherapy has been completed, followed by either rigid or flexible cystoscopy:
  - every 3 months for the first 2 years **then**
  - every 6 months for the next 2 years **then**

  - every year thereafter, according to clinical judgement and the person's preference

- upper-tract imaging every year for 5 years
- monitoring for local and distant recurrence using CT of the abdomen, pelvis and chest, carried out with other planned CT imaging if possible, 6, 12 and 24 months after radical radiotherapy has finished.

1.6.4 See recommendation 1.2.1 on the use of urinary biomarkers for follow-up after treatment for bladder cancer.

1.7 Managing locally advanced or metastatic muscle-invasive bladder cancer

First-line chemotherapy

1.7.1 Discuss the role of first-line chemotherapy with people who have locally advanced or metastatic bladder cancer. Include in your discussion:

- prognosis of their cancer **and**
- advantages and disadvantages of the treatment options, including best supportive care.

1.7.2 Offer a cisplatin-based chemotherapy regimen (such as cisplatin in combination with gemcitabine, or accelerated [high-dose] methotrexate, vinblastine, doxorubicin and cisplatin [MVAC] in combination with granulocyte-colony stimulating factor [G-CSF]) to people with locally advanced or metastatic urothelial bladder cancer who are otherwise physically fit (have an Eastern Cooperative Oncology Group [ECOG] performance status of 0 or 1) and have adequate renal function (typically defined as a glomerular filtration rate [GFR] of 60 ml/min/1.73 m^2 or more).

1.7.3 Offer carboplatin in combination with gemcitabine[3] to people with locally advanced or metastatic urothelial bladder cancer with an ECOG performance status of 0–2 if a cisplatin-based chemotherapy regimen is unsuitable, for example, because of ECOG performance status, inadequate renal function (typically defined as a GFR of less than 60 ml/min/1.73 m^2) or comorbidity. Assess and discuss the risks and benefits with the person.

1.7.4 For people having first-line chemotherapy for locally advanced or metastatic bladder cancer:

- carry out regular clinical and radiological monitoring **and**
- actively manage symptoms of disease and treatment-related toxicity **and**
- stop first-line chemotherapy if there is excessive toxicity or disease progression.

Second-line chemotherapy

1.7.5 Discuss second-line chemotherapy with people who have locally advanced or metastatic bladder cancer. Include in your discussion:

- the prognosis of their cancer
- advantages and disadvantages of treatment options, including best supportive care.

1.7.6 Consider second-line chemotherapy with gemcitabine in combination with cisplatin, or accelerated (high-dose) MVAC in combination with G-CSF for people with incurable locally advanced or metastatic urothelial bladder cancer whose condition has progressed after first-line chemotherapy if:

- their renal function is adequate (typically defined as a GFR of 60 ml/min/1.73 m^2 or more) **and**
- they are otherwise physically fit (have an ECOG performance status of 0 or 1).

1.7.7 Consider second-line chemotherapy with carboplatin in combination with paclitaxel[3] or gemcitabine in combination with paclitaxel[4] for people with incurable locally advanced or metastatic urothelial bladder cancer for whom cisplatin-based chemotherapy is not suitable, or who choose not to have it.

1.7.8 For recommendations on vinflunine as second-line chemotherapy for people with incurable locally advanced or metastatic urothelial bladder cancer, see NICE's technology appraisal guidance on vinflunine for the treatment of advanced or metastatic transitional cell carcinoma of the urothelial tract.

1.7.9 For people having second-line chemotherapy for locally advanced or metastatic bladder cancer:

- carry out regular clinical and radiological monitoring **and**
- actively manage symptoms of disease and treatment-related toxicity **and**
- stop second-line chemotherapy if there is excessive toxicity or disease progression.

Managing symptoms of locally advanced or metastatic bladder cancer

Bladder symptoms

1.7.10 Offer palliative hypofractionated radiotherapy to people with symptoms of haematuria, dysuria, urinary frequency or nocturia caused by advanced bladder cancer that is unsuitable for potentially curative treatment.

Loin pain and symptoms of renal failure

1.7.11 Discuss treatment options with people who have locally advanced or metastatic bladder cancer with ureteric obstruction. Include in your discussion:

- prognosis of their cancer **and**
- advantages and disadvantages of the treatment options, including best supportive care.

1.7.12 Consider percutaneous nephrostomy or retrograde stenting (if technically feasible) for people with locally advanced or metastatic bladder cancer and ureteric obstruction who need treatment to relieve pain, treat acute kidney injury or improve renal function before further treatment.

1.7.13 If facilities for percutaneous nephrostomy or retrograde stenting are not available at the local hospital, or if these procedures are unsuccessful, discuss the options with a specialist urology multidisciplinary team for people with bladder cancer and ureteric obstruction.

Intractable bleeding

1.7.14 Evaluate the cause of intractable bleeding with the local urology team.

1.7.15 Consider hypofractionated radiotherapy or embolisation for people with intractable bleeding caused by incurable bladder cancer.

1.7.16 If a person has intractable bleeding caused by bladder cancer and radiotherapy or embolisation are not suitable treatments, discuss further management with a specialist urology multidisciplinary team.

Pelvic pain

1.7.17 Evaluate the cause of pelvic pain with the local urology team.

1.7.18 Consider, in addition to best supportive care, 1 or more of the following to treat pelvic pain caused by incurable bladder cancer:

- hypofractionated radiotherapy if the person has not had pelvic radiotherapy
- nerve block
- palliative chemotherapy.

1.8 Specialist palliative care for people with incurable bladder cancer

1.8.1 A member of the treating team should offer people with incurable bladder cancer a sensitive explanation that their disease cannot be cured and refer them to the urology multidisciplinary team.

1.8.2 Tell the primary care team that the person has been given a diagnosis of incurable bladder cancer within 24 hours of telling the person.

1.8.3 A member of the urology multidisciplinary team should discuss the prognosis and management options with people with incurable bladder cancer.

1.8.4 Discuss palliative care services with people with incurable bladder cancer and, if needed and they agree, refer them to a specialist palliative care team (for more information, see recommendation 1.1.4 on holistic needs assessment and NICE's guidelines on improving supportive and palliative care for adults with cancer and improving outcomes in urological cancers).

1.8.5 Offer people with symptomatic incurable bladder cancer access to a urological team with the full range of options for managing symptoms.

[1] At the time of publication (February 2015), mitomycin in combination with fluorouracil did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[2] Although this use is common in UK clinical practice, at the time of publication (February 2015), carbogen in combination with nicotinamide did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[3] Although this use is common in UK clinical practice, at the time of publication (February 2015), carboplatin in combination with gemcitabine did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

[4] Although this use is common in UK clinical practice, at the time of publication (February 2015), gemcitabine in combination with paclitaxel did not have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information.

2 Research recommendations

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future. The Guideline Development Group's full set of research recommendations is detailed in the full guideline.

2.1 Patient satisfaction

What are the causative and contributory factors underlying the persistently very low levels of reported patient satisfaction for bladder cancer?

Why this is important

The urological cancers grouping (which includes bladder cancer but excludes prostate cancer) has consistently appeared near the bottom of the table of patient satisfaction comparisons of all cancer types in national patient experience surveys. Prostate cancer (which is also managed in urological services) is recorded separately and has continued to appear near the top of the tables.

It is uncertain why this is the case, except that there is now an accepted link between the level of clinical nurse specialist allocation, information and support provision and patient satisfaction. The urological cancers grouping has the lowest level of clinical nurse specialist allocation in comparison with all other cancer types or groupings (including prostate cancer). The prolonged pattern of intrusive procedures that dominate investigation, treatment and follow-up regimens for bladder cancer may also contribute to this position. Additionally, there is concern that people with bladder cancer at or near the end of life, who are by that stage often quite frail and elderly, may not always have access to the full range of palliative and urological support and may, at times, be treated in general wards in hospital and experience significant symptoms of pain and bleeding (haematuria).

To explore this research question bladder cancer patients need to be identified separately from the generic group of urological cancer patients in nationally collected data sets.

2.2 BCG or primary cystectomy in high-risk non-muscle-invasive bladder cancer

Is primary radical cystectomy more effective than primary intravesical BCG in high-risk non-muscle-invasive bladder cancer, in terms of quality of life and cancer-specific outcomes?

Why this is important

Options for people with high-risk non-muscle-invasive bladder cancer include cystoscopy surveillance, BCG immunotherapy or radical surgery. To date, these have not been directly compared across the same population to understand their relative benefits.

Bladder-sparing approaches avoid major surgery, but have a greater risk of cancer progression. The potential advantage of bladder-sparing approaches compared with cystectomy in maintaining quality of life may be offset by continuing concern about cancer progression and morbidity from treatment. Primary cystectomy may improve survival; however, it has high short-term risks and life-changing consequences. It will be overtreatment for those people whose cancer would not have progressed.

2.3 Follow-up of high-risk non-muscle-invasive bladder cancer

In people with high-risk non-muscle-invasive bladder cancer, are these follow-up regimens equally effective in terms of identification of progression, cost effectiveness and health-related quality of life?

- Cystoscopic follow-up at 3, 6, 12, 18, 24, 36 and 48 months, and then annually, interspersed with non-invasive urinary tests.
- Cystoscopic follow-up at 3, 6, 9, 12, 15, 18, 21, 24, 30, 36, 42 and 48 months, and then annually thereafter.

Why this is important

Cystoscopy is currently the standard of care for follow-up of people with high-risk non-muscle-invasive bladder cancer. Regular cystoscopy may be associated with anxiety, procedural discomfort to the person and significant costs to the NHS.

Urine tests based on a variety of technologies (including cytology, fluorescence in-situ hybridization [FISH] and proteomic platforms) can detect high-grade recurrence, raising the possibility that 1 or more of these tests could be used to reduce the frequency of cystoscopy. This could improve acceptability to patients and reduce costs to the NHS without increasing the risk of disease progression.

There is a lack of evidence on the optimal frequency of follow-up and whether the frequency of cystoscopy follow-up can safely be reduced by substitution of urinary tests.

2.4 Biomarkers for treatment selection

In patients with muscle-invasive bladder cancer suitable for radical treatment, does the use of biomarkers enable patients to select more effective treatment, and improve their outcomes, compared with treatment selected without biomarkers?

Why this is important

Response to surgery or radiotherapy is difficult to predict for individuals. There is variation not only in the cure rates for patients with muscle-invasive bladder cancer treated with either surgery or radiotherapy, but also in the side effects experienced during and after treatment. The usefulness of current biomarkers in predicting treatment outcomes for individual patients has not been clearly established. Currently treatment decisions are based on patient-related factors, and patient and clinician preference. Research into biomarkers that can predict the response of the patient's muscle-invasive bladder cancer to either radiotherapy or surgery could help individual patients and clinicians decide which treatment is more suitable and is considered an important step toward individualised treatment.

2.5 Follow-up after radical treatment for organ-confined muscle-invasive bladder cancer

Is symptom-based review as effective as scheduled follow-up for people treated with radical cystectomy or radical radiotherapy for organ-confined, muscle-invasive bladder cancer? Outcomes of interest are overall survival, health-related quality of life, resource use and cost.

Why this is important

Standard care after treatment for organ-confined, muscle-invasive bladder cancer is scheduled follow-up at intervals set out by the treating team. Although this can be reassuring for both the patient and the treating team, it is not known whether scheduled follow-up offers clinical benefit compared with symptom-based review, which is increasingly used for people with other cancers. Moreover, there are significant costs associated with follow-up. The current evidence about follow-up is confined to cystectomy. There is no evidence concerning follow-up after radiotherapy. In addition, the evidence on radiological follow-up uses mainly outdated imaging techniques.

3 Other information

3.1 Scope and how this guideline was developed

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover.

How this guideline was developed

NICE commissioned the National Collaborating Centre for Cancer to develop this guideline. The Centre established a Guideline Development Group (see section 4), which reviewed the evidence and developed the recommendations.

The methods and processes for developing NICE clinical guidelines are described in the guidelines manual.

3.2 Related NICE guidance

Details are correct at the time of publication of the guideline (February 2015). Further information is available on the NICE website.

Published

General

- Opioids in palliative care (2012) NICE guideline CG140
- Patient experience in adult NHS services (2012) NICE guideline CG138
- Medicines adherence (2009) NICE guideline CG76
- Smoking cessation services (2008) NICE guideline PH10
- Brief interventions and referral for smoking cessation (2006) NICE guideline PH1

Condition-specific

- Vinflunine for the treatment of advanced or metastatic transitional cell carcinoma of the urothelial tract (2013) NICE technology appraisal guidance 272
- Lower urinary tract symptoms (2009) NICE guideline CG97

- Laparoscopic cystectomy (2009) NICE interventional procedure guidance 287
- Metastatic spinal cord compression (2008) NICE guideline CG75
- Electrically-stimulated intravesical chemotherapy for superficial bladder cancer (2008) NICE interventional procedure guidance 277
- Intraoperative red blood cell salvage during radical prostatectomy or radical cystectomy (2008) NICE interventional procedure guidance 258
- Intravesical microwave hyperthermia with intravesical chemotherapy for superficial bladder cancer (2007) NICE interventional procedure guidance 235
- Urinary incontinence (2006) NICE guideline CG40
- Improving supportive and palliative care for adults with cancer (2004) NICE guideline CSGSP
- Improving outcomes in urological cancers (2002) NICE guideline CSGUC

Under development

NICE is developing the following guidance:

- Suspected cancer. NICE guideline. Publication expected May 2015.
- Care of the dying adult. NICE guideline. Publication date to be confirmed.

4 The Guideline Development Group, National Collaborating Centre and NICE project team, and declarations of interests

4.1 Guideline Development Group

Pauline Bagnall
Uro-oncology Nurse Specialist, Northumbria Healthcare NHS Foundation Trust, North Shields

James Catto
Professor of Urology, University of Sheffield and Honorary Consultant Urological Surgeon, Sheffield Teaching Hospitals

Ashish Chandra
Consultant Uropathologist and Cytopathologist, Guy's and St Thomas' Hospital NHS Foundation Trust, London

Helen Chilcott
Macmillan Uro-oncology Clinical Nurse Specialist, North Bristol NHS Trust, Bristol

Ananya Choudhury
Consultant Clinical Oncologist, The Christie NHS Foundation Trust, Manchester

Robert Huddart
Reader in Urological Oncology and Honorary Consultant Clinical Oncologist, Institute of Cancer Research, Royal Marsden Hospital, London

Rob Jones
Reader and Honorary Consultant in Medical Oncology, University of Glasgow, Beatson West of Scotland Cancer Centre, Glasgow

Phil Kelly
Patient and carer member

Antony Miller
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Hugh Mostafid
Consultant Urologist, North Hampshire Hospital, Basingstoke

Jonathan Osborn
GP Partner, College Surgery Partnership, Cullompton, Devon

Marcus Ben Taylor
Consultant Radiologist, The Christie NHS Foundation Trust, Manchester

William Turner
Consultant Urologist, Cambridge University Hospitals NHS Foundation Trust

Julia Verne
Director, Director for Knowledge and Intelligence (South West), Public Health England, Bristol

Louise Warren
Patient and carer member (until June 2013)

4.2 National Collaborating Centre for Cancer

John Graham
Director

Andrew Champion
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Lianne Gwillim
Project Manager

Jenny Stock
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Kim Lewis
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Nathan Bromham
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Laura Bunting
Researcher

David Jarrom
Researcher

Elise Hasler
Information Specialist

Delyth Morris
Information Specialist

Matthew Prettyjohns
Senior Health Economist

4.3 NICE project team

Sharon Summers-Ma
Guideline Lead

Mark Baker
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Claire Ruiz
Guideline Commissioning Manager (until May 2013)

Katie Perryman Ford
Guideline Commissioning Manager (from May 2013)

Margaret Ghlaimi
Guideline Coordinator (until May 2014)

Jennifer Wells
Guideline Coordinator (until June 2014)

Joy Carvill
Guideline Coordinator (from July 2014)

Steven Barnes
Technical Lead

Jasdeep Hayre
Health Economist (until May 2014)

Paul Crosland
Health Economist (from July 2014)

Alison Lake
Editor (until December 2013)

Judy McBride
Editor (from January 2014)

4.4 Declarations of interests

The following members of the Guideline Development Group made declarations of interests. All other members of the Group stated that they had no interests to declare.

Member	Interest declared	Type of interest	Decision taken
Pauline Bagnall	Honorarium and travel to present on 'An overview and update on bladder cancer and management guidelines' for urology nurses. Funded by MSD.	Personal pecuniary; non-specific	Declare and participate
James Catto	Received honorarium from GlaxoSmithKline regarding the use of dutasteride for prostate cancer.	Personal pecuniary; non-specific	Declare and participate
James Catto	Received honorarium for attending the scientific advisory board of Orion Pharma regarding the development of an agent to treat prostate cancer.	Personal pecuniary; non-specific	Declare and participate

James Catto	Received a research grant from GlaxoSmithKline for investigations of a novel therapeutic strategy in bladder cancer.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from European Union, framework 7 for prostate cancer, profiling and evaluation of ncRNA, ProspeR.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from Yorkshire Cancer Research for genetic instability and death in cancer cells.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from the Urological Foundation for investigation of microRNA mediated progression in urothelial cancer.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from Astellas for examination of the role of non-coding RNA in the mediation of chemoresistance in bladder cancer.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from the urological foundation for an investigation of microRNA mediation progression in urothelial cancer.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from Yorkshire Cancer Research for epigenetic carcinogenesis in the urothelium, development of a model system and examination of candidate occupational carcinogens.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from the Urological Foundation for the loss of redundant mRNA export pathways in cancer cells, an investigation of this and novel therapeutic target and prognostic biomarker.	Non-personal pecuniary; non-specific	Declare and participate

James Catto	Received a research grant from the Wellcome Trust for the loss of redundant mRNA export pathways in cancer cells, an investigation of this and novel therapeutic target and prognostic biomarker.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received a research grant from Yorkshire Cancer Research for an investigation of the role of epigenetic silencing play in long non-coding of RNA expression in bladder cancer.	Non-personal pecuniary; non-specific	Declare and participate
James Catto	Received an honorarium from Astellas for advisory board on enzalutamide for prostate cancer.	Personal pecuniary; non-specific	Declare and participate
James Catto	Received reimbursement of travel expenses from the Royal College of Radiologist to attend the 1st Royal College of Radiologists' bladder cancer meeting in London and give a lecture on: 'Integrating biomarkers and imaging redesign management pathways – do we really need a transurethral resection in muscle invasive disease?'.	Personal pecuniary; non-specific	Declare and participate
James Catto	Gave a lecture on updates in haematuria at the Urology and Men's Health Update in Sheffield.	Personal non-pecuniary	Declare and participate
James Catto	Received reimbursement of travel expenses from European Association of Urology to attend the 14th Society of Urological Oncology annual meeting and give a lecture on the management of high-grade non-muscle- invasive bladder cancer.	Personal pecuniary: non-specific	Declare and participate

Ashish Chandra	Presentation given on benign and malignant serous effusion cytology for the American Society of Cytopathology in November 2012.	Personal non-pecuniary	Declare and participate
Ashish Chandra	Co-author of pathology dataset for bladder cancer.	Personal non-pecuniary	Declare and participate
Ashish Chandra	Collaborator providing pathology input for the correlation of distribution of tumour in the prostate-based histoscanning and comparing results on template biopsy and radical prostatectomy specimens. Funded by King's College London.	Non-personal pecuniary; non-specific	Declare and participate
Ashish Chandra	Collaborator providing pathology input for the Trans-Atlantic Prostate Group studies using tissue microarrays of prostate tissue collected retrospectively from a cohort of UK patients. Funded by King's College London.	Non-personal pecuniary; non-specific	Declare and participate
Ashish Chandra	Collaborator providing pathology input for evaluating the role of TMPRSS2-ERG antibody in predicting hormone sensitivity of prostate cancer and supervisor of the MSc project. Funded by King's College London.	Non-personal pecuniary; non-specific	Declare and participate
Ashish Chandra	Collaborator providing pathology input for a collaboration with Harvard University to explore the role of lipid metabolism in prostate cancer tissue microarrays from UK patients. Funded by King's College London.	Non-personal pecuniary; non-specific	Declare and participate
Ashish Chandra	Received expenses from Abbott for attending an advisory board looking at bladder and prostate cancer testing.	Personal pecuniary; non-specific	Declare and participate

Helen Chilcott	Honorarium received for a talk entitled 'Prostate cancer – long-term condition and survivorship' for GPs. Paid for by AstraZeneca.	Non-specific	Declare and participate
Ananya Choudhury	Received honorarium from Janssen for giving a lecture on prostate cancer in September 2011.	Personal pecuniary; non-specific	Declare and participate
Ananya Choudhury	Received reimbursement of travel expenses from Cancer Research UK for attendance at an NCRI bladder clinical studies group meeting in November 2011.	Personal pecuniary; specific	Declare and participate
Ananya Choudhury	Received reimbursement of travel expenses from Cancer Research UK for attendance at an NCRI bladder clinical studies group meeting in November 2012.	Personal pecuniary; specific	Declare and participate
Ananya Choudhury	Received reimbursement of travel expenses from Cancer Research UK for attendance at a CT-Rad studies group meeting in November 2011.	Personal pecuniary; non-specific	Declare and participate
Ananya Choudhury	Received reimbursement of travel expenses from Cancer Research UK for attendance at a CT-Rad studies group meeting in June 2012.	Personal pecuniary; non-specific	Declare and participate
Ananya Choudhury	Received honorarium from Pierre Fabre for attending a discussion group on metastatic bladder cancer in August 2012.	Personal pecuniary; specific	Declare and withdraw from discussion on topics regarding metastatic bladder cancer until August 2013

Ananya Choudhury	Principal investigator on the Mainsail trial to evaluate the safety and effectiveness of lenalidomide in combination with docetaxel and prednisone for patients with castrate-resistant prostate cancer. Not involved in trial protocol and is funded by Celgene Corporation.	Non-personal pecuniary; non-specific	Declare and participate
Ananya Choudhury	Principal investigator on the AFFIRM trial to evaluate the safety and efficacy of MDV3100 in patients with castrate-resistant prostate cancer, who have previously been treated with docetaxel-based chemotherapy. Not involved in trial protocol and is funded by Medivation Inc.	Non-personal pecuniary; non-specific	Declare and participate
Ananya Choudhury	Chief investigator and involved in the trial protocol of the trial of the measurement of gemcitabine metabolites in blood and urine as predictors of response to GemX bladder radiotherapy. Funded by Christie Charitable Funds.	Non-personal pecuniary; specific	Declare and participate
Ananya Choudhury	Chief investigator and involved in the trial protocol of the trial of the simultaneous cone beam computed tomography (CBCT) acquisition during Arc radiotherapy in prostate cancer. Funded by Christie Charitable Funds.	Non-personal pecuniary; specific	Declare and participate
Ananya Choudhury	Chief investigator and involved in the trial protocol of the trial on MRE11 as an outcome prediction biomarker in bladder cancer radiotherapy (MOBIBLART). Funded by Christie Charitable Funds.	Personal pecuniary; non-specific	Declare and participate

Ananya Choudhury	Chief investigator and involved in the trial protocol of a phase I feasibility study to compare early response assessment and planning volumes with contract-enhanced computer tomography (CT), MRI including diffusion weighted MRI (DWI) and dynamic-contrast enhanced (DCE) MRI in patients with limb sarcoma undergoing pre-operative radiotherapy. Funded by Christie Charitable Funds.	Non-personal pecuniary; specific	Declare and participate
Ananya Choudhury	Chief investigator for a study looking at the role of rectal balloons in prostate radiotherapy (BRAD). Funded by Men Matter Charity.	Non-personal pecuniary; specific	Declare and participate
Ananya Choudhury	Member of the NCRI bladder clinical studies group.	Personal non-pecuniary	Declare and participate
Ananya Choudhury	Member of the CT-Rad group.	Personal non-pecuniary	Declare and participate
Ananya Choudhury	Member of the British Uro-Oncology Group.	Personal non-pecuniary	Declare and participate
Ananya Choudhury	Member of the European Society of Therapeutic Radiation Oncology.	Personal non-pecuniary	Declare and participate
Ananya Choudhury	Author on publication in the journal Radiotherapy Oncology. Entitled: 'Necrosis predicts benefit from hypoxia-modifying therapy in patients with high risk bladder cancer enrolled in a phase III randomised trial'.	Personal non-pecuniary; non-specific	Declare and participate
Ananya Choudhury	Author of a chapter in a book ('Treatment of bladder cancer') entitled: 'Bladder-sparing strategies for invasive bladder cancer'.	Personal non-pecuniary; specific	Declare and participate

Ananya Choudhury	Reviewed patient information on management of bladder cancer for NHS Choices.	Personal non-pecuniary; non-specific	Declare and participate
Ananya Choudhury	Travel, accommodation and registration to attend ESTRO (European radiotherapy) in Amsterdam. Funding from Janssen.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Received an honorarium from Stratagem for attending an advisory board on the treatment of radiation cystitis.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Received payment for management of bladder cancer education session from Pierre Fabre.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Received an honorarium from MA Healthcare Ltd for giving a case presentation on the management of bladder cancer patients at a renal and bladder conference.	Personal pecuniary; specific	Declare and participate
Robert Huddart	Received subsistence expenses from Janssen for attending a conference on abiraterone for prostate cancer.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Chief investigator, and involved in designing the trial protocol of BC2001 trial, a randomised phase III study of radiotherapy with and without synchronous chemotherapy in muscle-invasive bladder cancer. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Chief investigator and involved in designing the trial protocol of SPARE trial, a randomised selective bladder preservation against radical excision in muscle invasive transitional cell carcinoma of the bladder. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate

Robert Huddart	Chief investigator and involved in designing the trial protocol of IDEAL trial for image guided dose escalated adaptive bladder radiotherapy. Funded by Cancer Research UK and the Royal College of Radiologists.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Chief investigator, and involved in designing the trial protocol for hypofractionated radiotherapy in bladder cancer, funded by NIHR.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Chief investigator, and involved in designing the trial protocol for IMRT for bladder cancer, funded by NIHR.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Co-investigator, involved in developing trial protocol, the application for funding and on trial management group of BOXIT trial, for the standard treatment with or without celecoxib for transitional cell bladder cancer. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Co-investigator, involved in trial application of ToTem study, a phase I/II single-arm trial to evaluate the combination of cisplatin and gemcitabine with the mTOR inhibitor temsirolimus for first-line treatment of patients with advanced transitional cell carcinoma of the urothelium. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Principal investigator for SUCCINCT trial looking at the addition of sunitinib to standard 2-drug cisplatin/gemcitabine chemotherapy for first-line treatment of patients with advanced bladder cancer. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate

Robert Huddart	Local principal investigator for TOUCAN, a randomised phase II trial of carboplatin and gemcitabine ± vandetanib in first-line treatment of advanced urothelial cancer in patients who are not suitable to receive cisplatin. Funded by Cancer Research UK and AstraZeneca.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Local principal investigator for LAMB, a phase II/III randomised 2-arm trial comparison of maintenance lapatinib versus placebo after first-line chemotherapy in patients with HER1 and/or HER2 overexpressing locally advanced or metastatic bladder cancer. Funded by Cancer Research UK and AstraZeneca.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Local principal investigator for POUT, a peri-operative chemotherapy or surveillance in upper tract urothelial cancer trial. Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Chief investigator of Cancer Research UK TE22 and TE23 national testicular genetic genome wide association study.	Non-personal pecuniary; non-specific	Declare and participate
Robert Huddart	Co-investigator of TRIST trial of seminoma surveillance.	Non-personal pecuniary; non-specific	Declare and participate
Robert Huddart	Co-investigator of GEM-TIP trial of salvage testis chemotherapy.	Non-personal pecuniary; non-specific	Declare and participate
Robert Huddart	Co-investigator of 111 study of adjuvant chemotherapy in NSGCT.	Non-personal pecuniary; non-specific	Declare and participate
Robert Huddart	Co-investigator of TRYMS trial of hormone replacement in cancer survivors.	Non-personal pecuniary; non-specific	Declare and participate

Robert Huddart	Member/trustee of British Uro-oncology Group.	Personal non-pecuniary	Declare and participate
Robert Huddart	Published research articles relating to bladder cancer treatment, specifically a trial that showed to improve outcome for chemo-radiotherapy over radiotherapy and has publicly stated that this should be the standard of care.	Personal non-pecuniary	Declare and participate
Robert Huddart	Member of the NCRI bladder cancer studies group.	Personal non-pecuniary	Declare and participate
Robert Huddart	Member of the NCIN urology site-specific clinical reference group, representing testis.	Personal non-pecuniary	Declare and participate
Robert Huddart	Presentation at NCRI urology meeting on the BC2001 trial (no payment or expenses received).	Personal non-pecuniary; specific	Declare and participate
Robert Huddart	Travel expenses for a presentation on 'How should IMRT and IGRT be used in bladder radiotherapy' at a bladder cancer meeting hosted by The Royal College of Radiologists.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Travel expenses for a presentation on 'Advances in the non-surgical management of bladder cancer' at a conference hosted by the Royal College of Radiologists.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Invited to be a local site principal investigator for a new neo-adjuvant chemotherapy trial funded by NCRI (no remuneration).	Personal non-pecuniary; specific	Declare and participate

Robert Huddart	Chief investigator of RAIDER trial (A randomised phase II trial of adaptive image-guided, standard or dose-escalated tumour boost radiotherapy in the treatment of transitional cell carcinoma of the bladder). Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Chief investigator of HYBRID trial (A multicentre randomised phase II study of hypofractionated bladder radiotherapy with or without image guided adaptive planning in patients with muscle invasive bladder cancer). Funded by Cancer Research UK.	Non-personal pecuniary; specific	Declare and participate
Robert Huddart	Received reimbursement of travel expenses from Janssen Pharmaceuticals to attend ASCO in June 2014.	Personal pecuniary; non-specific	Declare and participate
Robert Huddart	Invited to speak on bladder cancer radiotherapy at the East Anglian bladder meeting in October 2014. No fee received.	Personal non-pecuniary	Declare and participate
Robert Huddart	Spoke on bladder cancer image-guided radiotherapy at Royal College of Radiologists' meetings in April and June 2014. No fee received.	Personal non-pecuniary	Declare and participate
Robert Huddart	Has been invited to talk on the RAIDER trial at the Australian Radiotherapy/ Cancer meeting in September 2014. Will be receiving reimbursement of travel expenses and an honorarium from AstraZeneca.	Personal pecuniary	Declare and withdraw from discussion of any topics that involve interventions manufactured by Astra Zeneca
Rob Jones	Received an honorarium from Janssen for a consultancy on prostate cancer in November 2012.	Personal pecuniary; non-specific	Declare and participate

Rob Jones	Received an honorarium from Janssen for speaking on prostate cancer in September 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Pfizer for a consultancy on renal cancer in November 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Pfizer for speaking on renal cancer in June 2011.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Pfizer for speaking on renal cancer in October 2011.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Pfizer for speaking on renal cancer in November 2011.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Novartis for a consultancy on renal cancer in August 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Sanofi-Aventis for a consultancy on prostate cancer in November 2011.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Sanofi-Aventis for a consultancy on prostate cancer in July 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Sanofi-Aventis for speaking on prostate cancer in October 2011.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from GlaxoSmithKline for speaking on renal cancer in June 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from GlaxoSmithKline for speaking on renal cancer in November 2012.	Personal pecuniary; non-specific	Declare and participate

Rob Jones	Received an honorarium from Astellas for a consultancy on renal cancer in March 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from AstraZeneca for a consultancy on the development of a non-marketed product in prostate cancer in January 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from AstraZeneca for a consultancy on prostate cancer in January 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from CureVac for a consultancy on prostate cancer in November 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Roche for a consultancy on access to medicines in Scotland.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received reimbursement of travel expenses from GlaxoSmithKline for attending ASCO, which covered all aspects of medical treatment of cancer in May 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received reimbursement of travel expenses from GlaxoSmithKline for attending ESMO, which covered all aspects of medical treatment of cancer in October 2012.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Dendreon for a consultancy on prostate cancer in November 2012.	Personal pecuniary; non-specific	Declare and participate

Rob Jones	Director of CRUK-CTU, which coordinates PLUTO trial.	Personal pecuniary; non-specific	Declare and withdraw from topics covering pazopanib versus weekly paclitaxel in relapsed or progressive TCC of urothelium in bladder cancer
Rob Jones	Director of Beatson Clinical Trials unit, which conducts trials for pharmaceutical and biotech companies, none relevant to bladder cancer in the past 12 months.	Non-personal pecuniary; non-specific	Declare and participate
Rob Jones	Chief investigator and involved in trials protocol on PLUTO trial, a randomised phase II study investigating pazopanib versus weekly paclitaxel in relapsed or progressive TCC of urothelium in bladder cancer. Part sponsored by GlaxoSmithKline and coordinated by Cancer Research UK.	Non-personal pecuniary; specific	Declare and withdraw from topics covering pazopanib versus weekly paclitaxel in relapsed or progressive TCC of urothelium in bladder cancer
Rob Jones	Local principal investigator for the LAMB trial, for lapatinib for people with bladder cancer, which has spread, and is a member of the trial management group. Part funded by GlaxoSmithKline.	Non-personal pecuniary; specific	Declare and participate
Rob Jones	Chief investigator and involved in trial protocol for TOUCAN trial, carboplatin, gemcitabine and vandetanib to treat TCC that has spread. Funded by AstraZeneca.	Non-personal pecuniary; specific	Declare and withdraw from topics covering carboplatin, gemcitabine and vandetanib

Rob Jones	Chief investigator for MAdCap, for prostate cancer, funded by Roche.	Non-personal pecuniary; non-specific	Declare and participate
Rob Jones	Chief investigator for ASPEN, for renal cancer, funded by Novartis and Pfizer.	Non-personal pecuniary; non-specific	Declare and participate
Rob Jones	Presented data on bladder cancer for a study funded by Topotargets.	Non-personal pecuniary; specific	Declare and participate
Rob Jones	Principal investigator on TOTEM trial to evaluate the addition of temsirolimus to the standard of 2-drug cisplatin/ gemcitabine chemotherapy for first-line treatment of patients with advanced bladder cancer.	Non-personal pecuniary; specific	Declare and withdraw from discussions on any topic regarding cisplatin/ gemcitabine for first-line treatment of patients with advanced bladder cancer (Chair decision that he can be asked questions)
Rob Jones	Principal investigator on SUCCINCT trial to evaluate the addition of sunitinib to standard 2-drug cisplatin/gemcitabine chemotherapy for first-line treatment of patients with advanced bladder cancer.	Non-personal pecuniary; specific	Declare and withdraw from topics covering cisplatin/ gemcitabine chemotherapy for first-line treatment of bladder cancer
Rob Jones	Principal investigator on trials not relating to bladder cancer. Trials funded by Active Biotech research, Millennium/Takeda, Novartis, Pfizer, Sanofi-Aventis.	Non-personal pecuniary; non-specific	Declare and participate

Rob Jones	On the editorial committee for the renal cancer clarity newsletter produced by the James Whale Fund.	Personal non-pecuniary	Declare and participate
Rob Jones	Reviews patient information leaflets and speaks at education meeting for Prostate Cancer UK, no payments are received.	Personal non-pecuniary	Declare and participate
Rob Jones	Received an honorarium from Exelixis for consultancy advice on an emerging drug in bladder cancer.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Astellas for consultancy on prostate cancer.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received an honorarium from Bayer for consultancy advice on the use of sorafenib in renal cell carcinoma.	Personal pecuniary; non-specific	Declare and participate
Rob Jones	Received payment from Bristol-Myers Squibb for consultancy regarding immunotherapy in renal cancer.	Personal pecuniary; non-specific	Declare and participate
Phil Kelly	Lay member of the NICE Safe Staffing Advisory Committee that developed the NICE guideline 'Safe staffing for nursing in adult inpatient wards in acute hospitals'. Attendance fee and expenses.	Personal pecuniary; non-specific	Declare and participate
Hugh Mostafid	Agreement with Kyowa to provide occasional advice on issues regarding intravesical chemotherapy. Agreement was formally terminated in February 2012.	Personal pecuniary; specific	Declare and withdraw from discussions on intravesical chemotherapy until February 2013

Hugh Mostafid	Wife works on an ad-hoc basis as a marketing consultant for pharmaceutical company marketing new preparation of mitomycin.	Personal family interest; specific	Declare and withdraw from discussion on all topics regarding intravesical chemotherapy. 20 August 2013: This interest is no longer applicable as wife did not take up job
Hugh Mostafid	Part of the trial management group for an NIHR-funded trial on standard treatment with or without celecoxib for transitional cell bladder cancer (BOXIT).	Non-personal pecuniary; specific	Declare and participate
Hugh Mostafid	Co-applicant on the trial management group for an NIHR-funded trial comparing hyperthermia and mitomycin chemotherapy with a second BCG treatment or other standard treatment for bladder cancer.	Non-personal pecuniary; specific	Declare and participate
Hugh Mostafid	Chief investigator, involved in developing the trial protocol on a NIHR-funded trial for standard surgical management of patients with low-risk bladder cancer versus intravesical chemotherapy.	Non-personal pecuniary; specific	Declare and participate
Hugh Mostafid	Member of the NCRI bladder cancer clinical trials study group.	Personal non-pecuniary	Declare and participate
Hugh Mostafid	Founder member and trustee of Action on Bladder Cancer, administrative role and patient education.	Personal non-pecuniary	Declare and participate
Hugh Mostafid	Co-author of South West Surrey and Hampshire Cancer Network guidelines on bladder cancer.	Personal non-pecuniary	Declare and participate

Jonathan Osborn	Director of Russell Osborn management company.	Personal pecuniary; non-specific	Declare and participate
Jonathan Osborn	Director of Vosper International Ltd, ship design company.	Personal pecuniary; non-specific	Declare and participate
Marcus Ben Taylor	Received honorarium in November 2011 from Novartis for lecture on recent advances and current strategies in GISTs.	Personal pecuniary; non-specific	Declare and participate
Marcus Ben Taylor	Chief investigator, involved in developing trial protocol for a study of Buscopan to improve image quality in pelvic MRI. Funded by Christie Charitable Funds.	Non-personal pecuniary; non-specific	Declare and participate
Marcus Ben Taylor	Chief investigator, involved in developing trial protocol for a study on diffusion-weighted imaging in pelvic MRI. Funded by radiology department, The Christie.	Non-personal pecuniary; non-specific	Declare and participate
Marcus Ben Taylor	Member of the Royal College of Radiologists' Guideline Group, involved in writing guideline for imaging of lymphoma.	Personal non-pecuniary	Declare and participate
Marcus Ben Taylor	Member of the NCAT reference group for peer review measures on carcinoma of unknown primary.	Personal non-pecuniary	Declare and participate
William Turner	Project group member of Addenbrooke's Urology patient information project (AUPIP) trying to improve shared and informed decision-making.	Personal non-pecuniary; non-specific	Declare and participate
William Turner	Lead of medical advisory group on bladder cancer in the NHS right care programme. The decision aid is being developed by Totally Health.	Personal non-pecuniary; non-specific	Declare and participate

About this guideline

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

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover.

This 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 Guideline Development Group, comprising healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, which reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

The methods and processes for developing NICE clinical guidelines are described in the guidelines manual.

NICE produces guidance, standards and information on commissioning and providing high-quality healthcare, social care, and public health services. We have agreements to provide certain NICE services to Wales, Scotland and Northern Ireland. Decisions on how NICE guidance and other products apply in those countries are made by ministers in the Welsh government, Scottish government, and Northern Ireland Executive. NICE guidance or other products may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

Strength of recommendations

Some recommendations can be made with more certainty than others. The Guideline Development Group makes a recommendation based on the trade-off between the benefits and harms of an intervention, taking into account the quality of the underpinning evidence. For some interventions, the Guideline Development Group is confident that, given the information it has looked at, most patients would choose the intervention. The wording used in the recommendations in this guideline denotes the certainty with which the recommendation is made (the strength of the recommendation).

For all recommendations, NICE expects that there is discussion with the patient about the risks and benefits of the interventions, and their values and preferences. This discussion aims to help them to reach a fully informed decision (see also patient-centred care).

Interventions that must (or must not) be used

We usually use 'must' or 'must not' only if there is a legal duty to apply the recommendation. Occasionally we use 'must' (or 'must not') if the consequences of not following the recommendation could be extremely serious or potentially life threatening.

Interventions that should (or should not) be used – a 'strong' recommendation

We use 'offer' (and similar words such as 'refer' or 'advise') when we are confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost effective. We use similar forms of words (for example, 'Do not offer…') when we are confident that an intervention will not be of benefit for most patients.

Interventions that could be used

We use 'consider' when we are confident that an intervention will do more good than harm for most patients, and be cost effective, but other options may be similarly cost effective. The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values and preferences than for a strong recommendation, and so the healthcare professional should spend more time considering and discussing the options with the patient.

Other versions of this guideline

The full guideline, bladder cancer: diagnosis and management, contains details of the methods and evidence used to develop the guideline. It is published by the National Collaborating Centre for Cancer.

The recommendations from this guideline have been incorporated into a NICE pathway.

We have produced information for the public about this guideline.

Implementation

Implementation tools and resources to help you put the guideline into practice are also available.

Your responsibility

This guidance represents the view of NICE, 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. However, the guidance does not 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 summaries of product characteristics of any drugs.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

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