

Issue date: February 2009

# **Advanced breast cancer**

## **Diagnosis and treatment**

**This guideline updates and replaces NICE technology appraisal guidance 62 (capecitabine), 54 (vinorelbine) and 30 (taxanes)**

**NICE clinical guideline 81**  
**Advanced breast cancer: diagnosis and treatment**

**Ordering information**

You can download the following documents from [www.nice.org.uk/CG081](http://www.nice.org.uk/CG081)

- The NICE guideline (this document) – all the recommendations.
- A quick reference guide – a summary of the recommendations for healthcare professionals.
- ‘Understanding NICE guidance’ – a summary 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](mailto:publications@nice.org.uk) and quote:

- N1794 (quick reference guide)
- N1795 (‘Understanding NICE guidance’).

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 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 summary of product characteristics of any drugs they are considering.

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 avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

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## Contents

Introduction .....	3
Patient-centred care.....	4
Key priorities for implementation.....	5
1 Guidance.....	7
1.1 Diagnosis and assessment .....	7
1.2 Providing information and support for decision making.....	8
1.3 Systemic disease-modifying therapy.....	8
1.4 Supportive care.....	10
1.5 Managing complications .....	11
2 Notes on the scope of the guidance .....	14
3 Implementation.....	15
4 Research recommendations.....	16
4.1 Endocrine therapy.....	16
4.2 Chemotherapy .....	16
4.3 Biological response modifiers (progressive metastatic disease) .....	17
4.4 Biological response modifiers (adjuvant trastuzumab).....	17
4.5 Uncontrolled local disease .....	17
5 Other versions of this guideline .....	19
5.1 Full guideline.....	19
5.2 Quick reference guide.....	19
5.3 'Understanding NICE guidance' .....	19
6 Related NICE guidance.....	19
7 Updating the guideline.....	21
Appendix A: The Guideline Development Group .....	22
Appendix B: The Guideline Review Panel.....	24
Appendix C: The algorithms.....	25

This guidance updates and replaces NICE technology appraisal guidance 62 (published May 2003), 54 (published December 2002) and 30 (published September 2001).

## Introduction

Breast cancer is the most common cancer affecting women in England and Wales, with about 40,500 new cases diagnosed<sup>1,2</sup> and 10,900 deaths<sup>1,2</sup> recorded in England and Wales each year. In men breast cancer is rare, with about 260 cases diagnosed<sup>1,2</sup> and 68 deaths<sup>1,2</sup> in England and Wales each year. Of these new cases in women and men, a small proportion are diagnosed in the advanced stages, when the tumour has spread significantly within the breast or to other organs of the body. In addition, there are a significant number of women who have been previously treated with curative intent who subsequently develop either a local recurrence or metastases. Over recent years there have been important developments in the investigation and management of patients with advanced breast cancer, including new chemotherapy, and biological and hormonal agents. There is some evidence of practice variation across the country and of patchy availability of certain treatments and procedures. This clinical guideline helps to address these issues and offers guidance on best practice.

The guideline assumes that prescribers will use a drug's summary of product characteristics to inform their decisions for individual patients.

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<sup>1</sup> Office for National Statistics (2008) Cancer statistics registrations: registrations of cancer diagnosed in 2005, England. Series MB1 number 36. London: Office for National Statistics.

<sup>2</sup> Welsh Cancer Intelligence and Surveillance Unit (2008) Cancer incidence in Wales 1992–2002. Cardiff: Welsh Cancer Intelligence and Surveillance Unit.

## **Patient-centred care**

This guideline offers best practice advice on the care of patients with advanced breast cancer.

Treatment and care should take into account patients' needs and preferences. Patients with advanced breast cancer should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If patients do not have the capacity to make decisions, healthcare professionals should follow the Department of Health guidelines – 'Reference guide to consent for examination or treatment' (2001) (available from [www.dh.gov.uk](http://www.dh.gov.uk)). Healthcare professionals should also follow a code of practice accompanying the Mental Capacity Act (summary available from [www.publicguardian.gov.uk](http://www.publicguardian.gov.uk)).

Good communication between healthcare professionals and patients is essential. It should be supported by evidence-based written information tailored to the patient's needs. Treatment and care, and the information patients are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

If the patient agrees, families and carers should have the opportunity to be involved in decisions about treatment and care.

Families and carers should also be given the information and support they need.

## Key priorities for implementation

### Diagnosis and assessment

- Positron emission tomography fused with computed tomography (PET-CT) should only be used to make a new diagnosis of metastases for patients with breast cancer whose imaging is suspicious but not diagnostic of metastatic disease.
- Assess oestrogen receptor (ER) and human epidermal growth factor receptor 2 (HER2) status at the time of disease recurrence if receptor status was not assessed at the time of initial diagnosis. In the absence of tumour tissue from the primary tumour, and if feasible, obtain a biopsy of a metastasis to assess ER and HER2 status.

### Systemic disease-modifying therapy

- Offer endocrine therapy as first-line treatment for the majority of patients with ER-positive advanced breast cancer.
- For patients with advanced breast cancer who are not suitable for anthracyclines (because they are contraindicated or because of prior anthracycline treatment either in the adjuvant or metastatic setting), systemic chemotherapy should be offered in the following sequence:
  - first line: single-agent docetaxel
  - second line: single-agent vinorelbine or capecitabine
  - third line: single-agent capecitabine or vinorelbine (whichever was not used as second-line treatment).
- For patients who are receiving treatment with trastuzumab<sup>3</sup> for advanced breast cancer, discontinue treatment with trastuzumab at the time of disease progression outside the central nervous system. Do not discontinue trastuzumab if disease progression is within the central nervous system alone.

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<sup>3</sup> Recommendations on the use of trastuzumab are covered by NICE technology appraisal guidance 34 (2002) which will be updated.

## **Supportive care**

- Healthcare professionals involved in the care of patients with advanced breast cancer should ensure that the organisation and provision of supportive care services comply with the recommendations made in 'Improving outcomes in breast cancer: manual update' (NICE cancer service guidance [2002]) and 'Improving supportive and palliative care for adults with cancer' (NICE cancer service guidance [2004]), in particular the following two recommendations:
  - 'Assessment and discussion of patients' needs for physical, psychological, social, spiritual and financial support should be undertaken at key points (such as diagnosis; at commencement, during, and at the end of treatment; at relapse; and when death is approaching).'
  - 'Mechanisms should be developed to promote continuity of care, which might include the nomination of a person to take on the role of "key worker" for individual patients.'

## **Managing complications**

- A breast cancer multidisciplinary team should assess all patients presenting with uncontrolled local disease and discuss the therapeutic options for controlling the disease and relieving symptoms.
- Consider offering bisphosphonates to patients newly diagnosed with bone metastases, to prevent skeletal-related events and reduce pain.
- Use external beam radiotherapy in a single fraction of 8Gy to treat patients with bone metastases and pain.
- Offer surgery followed by whole brain radiotherapy to patients who have a single or small number of potentially resectable brain metastases, a good performance status and who have no or well-controlled other metastatic disease.

# 1 Guidance

The following guidance is based on the best available evidence. The full guideline ([www.nice.org.uk/CG81FullGuideline](http://www.nice.org.uk/CG81FullGuideline)) gives details of the methods and the evidence used to develop the guidance.

## 1.1 *Diagnosis and assessment*

### **Imaging assessment**

- 1.1.1 Assess the presence and extent of visceral metastases using a combination of plain radiography, ultrasound, computed tomography (CT) scans and magnetic resonance imaging (MRI).
- 1.1.2 Assess the presence and extent of metastases in the bones of the axial skeleton using bone windows on a CT scan or MRI or bone scintigraphy.
- 1.1.3 Assess proximal limb bones for the risk of pathological fracture in patients with evidence of bone metastases elsewhere, using bone scintigraphy and/or plain radiography.
- 1.1.4 Use MRI to assess bony metastases if other imaging is equivocal for metastatic disease or if more information is needed (for example, if there are lytic metastases encroaching on the spinal canal).
- 1.1.5 Positron emission tomography fused with computed tomography (PET-CT) should only be used to make a new diagnosis of metastases for patients with breast cancer whose imaging is suspicious but not diagnostic of metastatic disease.

### **Pathological assessment**

- 1.1.6 Patients with tumours of known oestrogen receptor (ER) status whose disease recurs should not have a further biopsy just to reassess ER status.

- 1.1.7 Patients with tumours of known human epidermal growth factor receptor 2 (HER2) status whose disease recurs should not have a further biopsy just to reassess HER2 status.
- 1.1.8 Assess ER and HER2 status at the time of disease recurrence if receptor status was not assessed at the time of initial diagnosis. In the absence of tumour tissue from the primary tumour, and if feasible, obtain a biopsy of a metastasis to assess ER and HER2 status.

### **Monitoring disease status**

- 1.1.9 Do not use bone scintigraphy to monitor the response of bone metastases to treatment.
- 1.1.10 Do not use PET-CT to monitor advanced breast cancer.

## **1.2 *Providing information and support for decision making***

- 1.2.1 Assess the patient's individual preference for the level and type of information. Reassess this as circumstances change.
- 1.2.2 On the basis of this assessment, offer patients consistent, relevant information and clear explanations, and provide opportunities for patients to discuss issues and ask questions.
- 1.2.3 Assess the patient's individual preference for how much they wish to be involved in decision making. Reassess this as circumstances change.
- 1.2.4 Be aware of the value of decision aids and the range available. Make the most appropriate decision aid available to the patient.

## **1.3 *Systemic disease-modifying therapy***

- 1.3.1 Offer endocrine therapy as first-line treatment for the majority of patients with ER-positive advanced breast cancer.

- 1.3.2 Offer chemotherapy as first-line treatment for patients with ER-positive advanced breast cancer whose disease is imminently life-threatening or requires early relief of symptoms because of significant visceral organ involvement, providing they understand and are prepared to accept the toxicity.
- 1.3.3 For patients with ER-positive advanced breast cancer who have been treated with chemotherapy as their first-line treatment, offer endocrine therapy following the completion of chemotherapy.

### **Endocrine therapy**

- 1.3.4 Offer an aromatase inhibitor (either non-steroidal or steroidal) to:
- postmenopausal women with ER-positive breast cancer and no prior history of endocrine therapy
  - postmenopausal women with ER-positive breast cancer previously treated with tamoxifen.
- 1.3.5 Offer tamoxifen and ovarian suppression as first-line treatment to premenopausal and perimenopausal women with ER-positive advanced breast cancer not previously treated with tamoxifen.
- 1.3.6 Offer ovarian suppression to premenopausal and perimenopausal women who have previously been treated with tamoxifen and then experience disease progression.
- 1.3.7 Offer tamoxifen as first-line treatment to men with ER-positive advanced breast cancer.

### **Chemotherapy**

- 1.3.8 On disease progression, offer systemic sequential therapy to the majority of patients with advanced breast cancer who have decided to be treated with chemotherapy.
- 1.3.9 Consider using combination chemotherapy to treat patients with advanced breast cancer for whom a greater probability of response is important and who understand and are likely to tolerate the additional toxicity.

- 1.3.10 For patients with advanced breast cancer who are not suitable for anthracyclines (because they are contraindicated or because of prior anthracycline treatment either in the adjuvant or metastatic setting), systemic chemotherapy should be offered in the following sequence:
- first line: single-agent docetaxel
  - second line: single-agent vinorelbine or capecitabine
  - third line: single-agent capecitabine or vinorelbine (whichever was not used as second-line treatment).
- 1.3.11 Gemcitabine in combination with paclitaxel, within its licensed indication, is recommended as an option for the treatment of metastatic breast cancer only when docetaxel monotherapy or docetaxel plus capecitabine are also considered appropriate<sup>4</sup>.

### **Biological therapy**

- 1.3.12 For patients who are receiving treatment with trastuzumab<sup>5</sup> for advanced breast cancer, discontinue treatment with trastuzumab at the time of disease progression outside the central nervous system. Do not discontinue trastuzumab if disease progression is within the central nervous system alone.

## **1.4 Supportive care**

- 1.4.1 Healthcare professionals involved in the care of patients with advanced breast cancer should ensure that the organisation and provision of supportive care services comply with the recommendations made in 'Improving outcomes in breast cancer: manual update' (NICE cancer service guidance [2002]) and

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<sup>4</sup> This recommendation is from 'Gemcitabine for the treatment of metastatic breast cancer', NICE technology appraisal guidance 116 (2007). It was formulated as part of that technology appraisal and not by the guideline developers. It has been incorporated into this guideline in line with NICE procedures for developing clinical guidelines, and the evidence to support the recommendation can be found at [www.nice.org.uk/TA116](http://www.nice.org.uk/TA116)

<sup>5</sup> Recommendations on the use of trastuzumab are covered by NICE technology appraisal guidance 34 (2002) which will be updated.

‘Improving supportive and palliative care for adults with cancer’ (NICE cancer service guidance [2004]), in particular the following two recommendations:

- ‘Assessment and discussion of patients’ needs for physical, psychological, social, spiritual and financial support should be undertaken at key points (such as diagnosis; at commencement, during, and at the end of treatment; at relapse; and when death is approaching).’
- ‘Mechanisms should be developed to promote continuity of care, which might include the nomination of a person to take on the role of “key worker” for individual patients.’

## **1.5 *Managing complications***

### **Lymphoedema**

- 1.5.1 Assess patients with lymphoedema for treatable underlying factors before starting any lymphoedema management programme.
- 1.5.2 Offer all patients with lymphoedema complex decongestive therapy (CDT) as the first stage of lymphoedema management.
- 1.5.3 Consider using multilayer lymphoedema bandaging (MLLB) for volume reduction as a first treatment option before compression hosiery.
- 1.5.4 Provide patients with lymphoedema with at least two suitable compression garments. These should be of the appropriate class and size, and a choice of fabrics and colours should be available.
- 1.5.5 Provide patients with lymphoedema with clear, written information and the contact details of local and national lymphoedema support groups.

### **Cancer-related fatigue**

- 1.5.6 Offer all patients with advanced breast cancer for whom cancer-related fatigue is a significant problem an assessment to

identify any treatable causative factors, and offer appropriate management as necessary.

- 1.5.7 Provide clear, written information about cancer-related fatigue, organisations that offer psychosocial support and patient-led groups.
- 1.5.8 Provide information about and timely access to an exercise programme for all patients with advanced breast cancer experiencing cancer-related fatigue.

### **Uncontrolled local disease**

- 1.5.9 A breast cancer multidisciplinary team should assess all patients presenting with uncontrolled local disease and discuss the therapeutic options for controlling the disease and relieving symptoms.
- 1.5.10 A wound care team should see all patients with fungating tumours to plan a dressing regimen and supervise management with the breast care team.
- 1.5.11 A palliative care team should assess all patients with uncontrolled local disease in order to plan a symptom management strategy and provide psychological support.

### **Bone metastases**

- 1.5.12 Consider offering bisphosphonates to patients newly diagnosed with bone metastases to prevent skeletal-related events and reduce pain.
- 1.5.13 The choice of bisphosphonate for patients with bone metastases should be a local decision, taking into account patient preference and limited to preparations licensed for this indication.
- 1.5.14 Use external beam radiotherapy in a single fraction of 8Gy to treat patients with bone metastases and pain.

- 1.5.15 An orthopaedic surgeon should assess all patients at risk of a long bone fracture, to consider prophylactic surgery.

### **Brain metastases**

- 1.5.16 Offer surgery followed by whole brain radiotherapy to patients who have a single or small number of potentially resectable brain metastases, a good performance status and who have no or well-controlled other metastatic disease.
- 1.5.17 Offer whole brain radiotherapy to patients for whom surgery is not appropriate, unless they have a very poor prognosis.
- 1.5.18 Offer active rehabilitation to patients who have surgery and/or whole brain radiotherapy.
- 1.5.19 Offer referral to specialist palliative care to patients for whom active treatment for brain metastases would be inappropriate.

## 2 Notes on the scope of the guidance

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover. The scope of this guideline is available from [www.nice.org.uk/CG81](http://www.nice.org.uk/CG81)

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

- Women and men with invasive adenocarcinoma of the breast of clinical stage 4 (that is, with known metastatic disease).

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

- Women and men with invasive adenocarcinoma of the breast of clinical stages 1, 2 and 3 (this will be covered by the NICE guideline on 'Early and locally advanced breast cancer: diagnosis and treatment').
- Women and men with metastases to the breast from other primary tumours.
- Women and men with rare breast tumours (for example, angiosarcoma, lymphoma).
- Women and men with benign breast tumours (for example, fibroadenoma, benign phyllodes tumours).

### **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 appendix A), which reviewed the evidence and developed the recommendations. An independent Guideline Review Panel oversaw the development of the guideline (see appendix B).

There is more information in the booklet: 'The guideline development process: an overview for stakeholders, the public and the NHS' (third edition, published April 2007), which is available from [www.nice.org.uk/guidelinesprocess](http://www.nice.org.uk/guidelinesprocess) or from NICE publications (phone 0845 003 7783 or email [publications@nice.org.uk](mailto:publications@nice.org.uk) and quote reference N1233).

## **3 Implementation**

The Healthcare Commission assesses the performance of NHS organisations in meeting core and developmental standards set by the Department of Health in 'Standards for better health' (available from [www.dh.gov.uk](http://www.dh.gov.uk)).

Implementation of clinical guidelines forms part of the developmental standard D2. Core standard C5 says that national agreed guidance should be taken into account when NHS organisations are planning and delivering care.

NICE has developed tools to help organisations implement this guidance (listed below). These are available on our website ([www.nice.org.uk/CG81](http://www.nice.org.uk/CG81)).

- Slides highlighting key messages for local discussion.
- Costing tools:
  - costing report to estimate the national savings and costs associated with implementation
  - costing template to estimate the local costs and savings involved.
- Audit support for monitoring local practice.

## **4 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 (see section 5).

### **4.1 *Endocrine therapy***

Clinical trials are needed to investigate the most effective endocrine therapy for postmenopausal women with ER-positive tumours who progress on treatment with an aromatase inhibitor.

#### **Why this is important**

Although there is good evidence to support the use of aromatase inhibitors for postmenopausal women with ER-positive tumours, there is little evidence to determine what is the best sequence of alternative hormone treatments when they progress.

### **4.2 *Chemotherapy***

Randomised clinical trials should evaluate the clinical and cost effectiveness of different sequences of chemotherapy for advanced breast cancer.

#### **Why this is important**

Most patients with advanced breast cancer who receive chemotherapy will be given at least two different regimens and many will receive three. The available evidence to support decisions about the most clinically and cost-effective sequence in which to use these drugs is extremely limited. There is also very little good-quality evidence about the relative clinical and cost effectiveness of currently recommended treatments, either in combination or in sequence. Following on from the recommendations in this guideline, it would be important to establish clinical trials to investigate this problem in a more systematic fashion than hitherto.

### **4.3 *Biological response modifiers (progressive metastatic disease)***

The use of continued trastuzumab in patients with progressive metastatic disease should be investigated as part of a randomised controlled trial. Trial design should incorporate collection of data required for prospective cost-effectiveness analysis.

#### **Why this is important**

There is currently no high-quality published evidence about whether continuing trastuzumab is effective in prolonging survival in patients with HER2-positive advanced breast cancer who develop progressive disease (outside the central nervous system) during or after first-line treatment with trastuzumab and cytotoxic chemotherapy. Any studies should be carefully planned to permit a high-quality cost-effectiveness analysis.

### **4.4 *Biological response modifiers (adjuvant trastuzumab)***

Randomised controlled trials are needed to assess whether patients who have had adjuvant trastuzumab should be offered further biological response modifiers. Trial design should incorporate collection of data required for prospective cost-effectiveness analysis.

#### **Why this is important**

As more patients with HER2-positive advanced breast cancer have trastuzumab as part of their initial adjuvant treatment following a diagnosis of early breast cancer, an increasing number of patients with advanced breast cancer will have had previous exposure to this agent. There is no evidence currently about whether trastuzumab or other biological therapies are effective in this situation.

### **4.5 *Uncontrolled local disease***

The relevant research organisations should be encouraged to address the topic of uncontrolled local disease and devise appropriate research studies. This might include development of a national register.

**Why this is important**

The problem of how best to manage uncontrolled local disease is very poorly addressed by the current evidence. Although it is probably quite an uncommon condition, it is likely that across the country there are enough patients to generate evidence from well-coordinated national studies. A national register should be considered as part of this because of the current uncertainties about the frequency of the problem.

## **5 Other versions of this guideline**

### **5.1 Full guideline**

The full guideline, 'Advanced breast cancer: diagnosis and treatment' contains details of the methods and evidence used to develop the guideline. It is published by the National Collaborating Centre for Cancer, and is available from our website ([www.nice.org.uk/CG81fullguideline](http://www.nice.org.uk/CG81fullguideline)) and the National Library for Health ([www.library.nhs.uk](http://www.library.nhs.uk)).

### **5.2 Quick reference guide**

A quick reference guide for healthcare professionals is available from [www.nice.org.uk/CG81quickrefguide](http://www.nice.org.uk/CG81quickrefguide)

For printed copies, phone NICE publications on 0845 003 7783 or email [publications@nice.org.uk](mailto:publications@nice.org.uk) (quote reference number N1794).

### **5.3 'Understanding NICE guidance'**

Information for patients and carers ('Understanding NICE guidance') is available from [www.nice.org.uk/CG81publicinfo](http://www.nice.org.uk/CG81publicinfo)

For printed copies, phone NICE publications on 0845 003 7783 or email [publications@nice.org.uk](mailto:publications@nice.org.uk) (quote reference number N1795).

We encourage NHS and voluntary sector organisations to use text from this booklet in their own information about advanced breast cancer.

## **6 Related NICE guidance**

### **Published**

Early and locally advanced breast cancer: diagnosis and treatment. NICE clinical guideline 80 (2009). Available from [www.nice.org.uk/CG80](http://www.nice.org.uk/CG80)

Familial breast cancer: the classification and care of women at risk of familial breast cancer in primary, secondary and tertiary care (partial update of NICE

clinical guideline 14). NICE clinical guideline 41 (2006). Available from [www.nice.org.uk/CG41](http://www.nice.org.uk/CG41)

Referral guidelines for suspected cancer. NICE clinical guideline 27 (2005). Available from [www.nice.org.uk/CG27](http://www.nice.org.uk/CG27)

Improving supportive and palliative care for adults with cancer. Cancer service guidance (2004). Available from [www.nice.org.uk/csgsp](http://www.nice.org.uk/csgsp)

Improving outcomes in breast cancer – manual update. Cancer service guidance (2002). Available from [www.nice.org.uk/csgbc](http://www.nice.org.uk/csgbc)

Alendronate, etidronate, risedronate, raloxifene, strontium ranelate and teriparatide for the secondary prevention of osteoporotic fragility fractures in postmenopausal women (update of technology appraisal guidance 87) NICE technology appraisal guidance 161 (2008). Available from [www.nice.org.uk/TA161](http://www.nice.org.uk/TA161)

Alendronate, etidronate, risedronate, raloxifene and strontium ranelate for the primary prevention of osteoporotic fragility fractures in postmenopausal women. NICE technology appraisal guidance 160 (2008). Available from [www.nice.org.uk/TA160](http://www.nice.org.uk/TA160)

Gemcitabine for the treatment of metastatic breast cancer. NICE technology appraisal guidance 116 (2007). Available from [www.nice.org.uk/TA116](http://www.nice.org.uk/TA116)

Guidance on the use of trastuzumab for the treatment of advanced breast cancer. NICE technology appraisal guidance 34 (2002). Available from [www.nice.org.uk/TA34](http://www.nice.org.uk/TA34)

### **Under development**

NICE is developing the following guidance (details available from [www.nice.org.uk](http://www.nice.org.uk)):

- Osteoporosis: assessment of fracture risk and the prevention of osteoporotic fractures in individuals at high risk. NICE clinical guideline (publication date to be confirmed).

## **7            Updating the guideline**

NICE clinical guidelines are updated so that recommendations take into account new information. New evidence is checked 3 years after publication, and healthcare professionals and patients are asked for their views; we use this information to decide whether all or part of a guideline needs updating. If important new evidence is published at other times, we may decide to do a more rapid update of some recommendations.

## **Appendix A: The Guideline Development Group**

### **Mr John Winstanley (Chair)<sup>6</sup>**

Consultant Surgeon, Royal Bolton Hospital

### **Dr Sarah Wilson (Chair)<sup>7</sup>**

Medical Director, InHealth

### **Dr Nick Murray (Lead Clinician)**

Senior Lecturer and Honorary Consultant Medical Oncologist, Cancer Research UK Clinical Centre, University of Southampton

### **Dr Murray Brunt**

Consultant Clinical Oncologist, University Hospital of North Staffordshire NHS Trust

### **Dr Helen Burrell**

Consultant Radiologist, Nottingham University Hospitals NHS Trust

### **Dr Susan Closs**

Lead Consultant in Palliative Medicine/Network Chair in Palliative Care (South West Wales Cancer Network), Swansea NHS Trust

### **Mrs Debbie Collins**

Macmillan Radiotherapy Specialist, Kent Oncology Centre

### **Dr Dermott Davison<sup>8</sup>**

GP, County Antrim, Northern Ireland

### **Dr Chris Gaffney<sup>9</sup>**

Consultant Clinical Oncologist, Velindre Cancer Centre, Cardiff

### **Mrs Kathleen Jenkins**

Retired Clinical Nurse Specialist

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<sup>6</sup> From February 2008 to February 2009

<sup>7</sup> From June 2006 to February 2008

<sup>8</sup> From June 2006 to April 2008

<sup>9</sup> From September 2007 to February 2009

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Lead Research Nurse, Oncology Clinical Trials, Kent Oncology Research Centre

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Consultant Surgeon, Royal Bolton Hospital

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**Miss Anna Wood<sup>13</sup>**

Patient/carer member, Head of Policy and Campaigns, Breast Cancer Care

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<sup>10</sup> From June 2006 to July 2007

<sup>11</sup> From November 2007 to February 2009

<sup>12</sup> From June 2006 to February 2008

<sup>13</sup> From June 2006 to May 2008

## **Appendix B: The Guideline Review Panel**

The Guideline Review Panel is an independent panel that oversees the development of the guideline and takes responsibility for monitoring adherence to NICE guideline development processes. In particular, the panel ensures that stakeholder comments have been adequately considered and responded to. The panel includes members from the following perspectives: primary care, secondary care, lay, public health and industry.

### **Dr John Hyslop (Chair)**

Consultant Radiologist, Royal Cornwall Hospital NHS Trust

### **Dr Ash Paul**

Deputy Medical Director, Health Commission Wales

### **Professor Liam Smeeth**

Professor of Clinical Epidemiology, London School of Hygiene and Tropical Medicine

### **Mr Peter Gosling**

Lay member

### **Mr Jonathan Hopper**

Medical Director (Northern Europe), ConvaTec Ltd

## **Appendix C: The algorithms**

There is a care pathway for advanced breast cancer in the quick reference guide, available at [www.nice.org.uk/CG81quickrefguide](http://www.nice.org.uk/CG81quickrefguide)