



## REGIONAL BREAST GROUP

<b>Document Title</b>	<b>Surgical Guidelines for the Diagnosis, Treatment and Management of Breast Cancer</b>
<b>Document Date</b>	Version 3, December, 2009 <sup>1</sup>
<b>Document Purpose</b>	<p>This guidance has been produced to support the diagnosis, treatment and surgical management of Breast cancer. The guidelines cover the care of women with Breast cancer and provide a brief summary of national guidance to include National Institute of Clinical Excellence (NICE) and British Association of Surgical Oncology (BASO), in which parameters all breast teams work within.</p> <p>Treatment decisions for individual patients require the weighing of a multiplicity of factors, which cannot all be accounted for in a CMG. The CMG provides a description of the range of treatment options available for a clinical scenario. To maximise the benefit of multi-professional working management strategies for the individual are best discussed at a multidisciplinary team meeting (MDM)</p>
<b>Authors</b>	<p>Mr Robert Kennedy, Consultant Surgeon, South Eastern Trust                  Mr Stephen Kirk, Consultant Surgeon, South Eastern Trust                  Mr Stuart McIntosh, Consultant Surgeon, Belfast Trust                  Ms Sam Sloan, Consultant Surgeon, Southern Trust</p>

### Version Control

<b>Version 1</b>	Circulated 19 <sup>th</sup> October, 2009 for consultation at NICaN Breast regional group meeting 20 <sup>th</sup> October, 2009
<b>Version 2</b>	Updated following discussion at meeting 20 <sup>th</sup> October, 2009 and sub-group meeting 13 <sup>th</sup> November, 2009
<b>Version 3</b>	Amendments made following further comments from sub-group members. Circulated for discussion and final sign off at regional meeting 9/12/09. Formally signed off at meeting 9/12/09.

<b>Regional Agreements</b>	
Agreed:	NICaN Breast Regional Group – 9 <sup>th</sup> December, 2009
Review:	December, 2010

<sup>1</sup> Version 3\_ 9<sup>th</sup> December, 2009

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## **Introduction**

Every year in Northern Ireland around 1,089 women are diagnosed with breast cancer. Half of these women are under 62 years at diagnosis. Survival from breast cancer is relatively good; there were over 8,000 women alive in Northern Ireland with the diagnosis of breast cancer between 1993 and 2005.

One in five patients with breast cancer in Northern Ireland had a history of benign (or non-cancerous) disease of the breast. One in seven had a positive family history of breast cancer. 65% of women present with a breast lump with other symptoms such as breast pain 16% and nipple discharge 13% less common.

There is a breast cancer screening programme for women aged over 50 years.

## **Treatment Planning**

Treatment options will be discussed with patients to ensure that planned treatment is acceptable to the individual patient. All patients will be discussed at the multi-disciplinary team meeting (MDTM).

## **Role of Breast care Nurse**

The Breast care Nurse plays a key role in the patient journey by the provision of support and information and ensuring that each patient and their family understands the diagnosis and are fully informed regarding treatment options. All patients receive support throughout their diagnosis and treatment, in patients requiring further management for Psychiatric/Psychological services, an appropriate referral is made.

## **Guideline statements**

This guideline is for the surgical management of breast cancer and should be read in conjunction with national guidelines and directives listed below. This document together with the regionally agreed clinical management guidelines for Imaging, Pathology and Systemic Therapies will cover all aspects of breast cancer care.

- Surgical guidelines for the management of Breast Cancer, Association of Breast Surgery at British Association of Surgical Oncologists, 2009.
- Advanced breast cancer: diagnosis and treatment, National Institute of Clinical excellence, 2009
- Early and locally advanced breast cancer: diagnosis and treatment, National Institute of Clinical excellence, 2009

## 1) **Referral Guidance**

Women with a suspected Breast cancer should be referred urgently using the Red Flag system in line with the NICaN referral guidelines detailed below:

### **Urgent referral: females**

- any age - discrete, hard lump with fixation, +/- skin tethering
- 30 years and above - discrete lump that persists after next period, or presents after menopause
- younger than 30 years:
  - with a lump that enlarges
  - with a lump that is fixed and hard in whom there are other reasons concern such as family history
- previous breast cancer, who present with a further lump or suspicious symptoms
- unilateral eczematous skin or nipple change that does not respond to topical treatment
- nipple distortion of recent onset
- spontaneous unilateral bloody nipple discharge

### **Urgent referral: males**

- 50 years and above with unilateral, firm subareolar mass +/- nipple distortion/ skin changes

### **The following may require non-urgent referral:**

- women younger than 30 years with a lump
- patients with breast pain and no palpable abnormality, when initial treatment fails and/or with unexplained persistent symptoms. (Use of mammography in these patients is not recommended).

All units work to BASO<sup>2</sup> guidelines, however in particular there is a commitment to see urgent referrals within two weeks, routine referrals within nine weeks and for access to triple assessment<sup>3</sup> at the first visit.

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<sup>2</sup> Surgical guidelines for the management of Breast Cancer, Association of Breast Surgery at BASO

<sup>3</sup> Clinical and radiological assessment followed by core biopsy and/or fine needle aspiration

## 2) **Staging of disease**

### (2a) ***Pre-operatively:***

USS of ipsilateral axilla

Patients with staging investigations or symptoms suggestive of metastatic spread may require further pre operative staging as agreed within each MDT.

In patients proceeding to surgery anaesthetic work up can include FBC, U & E's, LFT's and chest X-ray.

### (2b) ***Post-operatively:***

#### (1) Calculate Nottingham Prognostic Index (NPI)

(NPI) = size (cm x 0.2) + grade (1 – 3) + lymph node stage.

Lymph node stage score: node negative	1
1 – 3 positive	2
4 or more positive	3

#### (2) Estimate ER status and PR status (ER positive > <sup>2</sup>/<sub>8</sub> quick score)

#### (3) Estimate HER2 status: IHC/FISH

#### (4) All high risk patients (T3 or higher) and all node +ve patients: Contrast enhanced CT of chest, abdomen, +-pelvis together with an isotope bone scan.

#### (5) Selected investigations for locally advanced disease or symptomatic patients to be discussed at MDT.

Additional information should be available such as NPI score and adjuvant on-line prognostic index.

## 3) **Invasive Cancer**

At diagnosis, depending on clinical presentation, some patients may be considered for neo adjuvant therapy to reduce tumour size. This may consist of either chemotherapy or endocrine therapy and will be discussed on a case by case basis by local MDTS.

### 3a) **Surgery**

#### **Contra-indications to breast conservation surgery**

**Absolute:** multicentric disease

**Relative:** (to be discussed on an individual case basis):

- tumour > 3 cm
- lympho-vascular invasion out with tumour age < 50 years
- circumferential excision margins < 1 mm margin
- Previously radiated field

For breast conservation margins assessment applies to circumferential margins only, as all tissue will have been cleared to the superficial and deep margins. A specimen marking “system” must be agreed with local pathology services.

#### **Localisation Procedures**

Consideration should be given to additional margin excision at the time of all localisation surgery for cancer. All localised specimens must be x-rayed at the time of excision and a copy of this should be sent with the specimen to the laboratory.

#### **Lymph nodes**

Sentinel node assessment should be available to those patients for whom it is an appropriate procedure for node assessment.

The combined technique (blue dye and radio-isotope) is the recommended method. Surgeons should be able to achieve minimum standards with a >90% sentinel node identification rates and <10% false negative rates over a minimum 30 case audit series.<sup>4</sup>

All invasive tumours to have at least level 1 axillary clearance (minimum 4 nodes) or sentinel node biopsy.

Pre-operative node positive (FNA or core = 5) to have axillary clearance to a minimum of level 2.

Sentinel node positive pts should proceed to Axillary node Clearance.

#### **Reconstruction**

Reconstruction (if required) should be offered to those patients who are medically suitable for reconstructive procedures.

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<sup>4</sup> Surgical Guidelines for the Management of Breast Cancer, Association of Breast Surgery at BASO, 2009

### **3b) Adjuvant Hormonal Therapy**

#### **Hormone sensitive invasive breast cancer**

##### **Post menopausal**

##### **Patients at first presentation:**

In keeping with International guidelines, post menopausal patients may be treated either an aromatase inhibitor (ANSTROZOLE or LETROZOLE) for 5 years, or with initial tamoxifen with a subsequent switch to an aromatase inhibitor (ANASTROZOLE or EXEMESTANE) after 2-3 years. (NCCN, St. Gallen).

Patients with contraindications to TAMOXIFEN should be treated with ANASTROZOLE or LETROZOLE for 5years

For high risk/node positive patients treated with Tamoxifen for 5 years, consider 5 years further treatment with Letrozole.

##### **Pre menopausal**

Tamoxifen for 5 years (asses for contra-indications to Tamoxifen) e.g. Past history of VTE, give warning re aircraft flights and periods of immobility e.g.: postoperative. Extended adjuvant therapy to be discussed by the local MDT.

**Note:** Please see page 7 of Clinical Management Guidelines for systemic therapies for further information.

### **3c) Management of bone health in women following adjuvant therapy**

#### **Postmenopausal women receiving adjuvant hormonal therapy with aromatase inhibitors**

Aromatase inhibitors cause loss of bone mineral density

All women commencing an aromatase inhibitor should have a DEXA scan to assess bone density and are managed if appropriate with further monitoring or bisphosphonate therapy according T score. For details refer to Northern Ireland British Oncology Group (NIBOG) guidelines which reflect national guidelines.

##### ***Premenopausal women***

Premenopausal women who experience premature ovarian failure as a result of adjuvant therapy are at risk of developing osteoporosis and should undergo DEXA scanning to assess bone mineral density and are also managed if appropriate with further monitoring or bisphosphonate therapy according T score. For details refer to NIBOG guidelines which reflect national guidelines.

### **3d) Radiotherapy**

All breast conservation patients: For dose fractionation schedule, refer to current regional radiotherapy Breast protocol (Radiotherapy department, cancer centre, Belfast city Hospital).

#### **Post mastectomy**

- All patients with >4 positive nodes
- All deep margins <5mm
- All tumour >5cm

#### **SCF:**

The SCF is irradiated in patients if 4 or more axillary nodes are involved after level 2 axillary node clearance.

## **4) Ductal Carcinoma In Situ**

#### **Breast conservation**

Aim for minimum 1-2 mm circumferential excision margin

#### **Lymph nodes**

- Breast conservation: nil
- Mastectomy: sentinel node biopsy should be considered

### **4a) Hormone sensitive DCIS**

Hormonal treatment is not routinely indicated as per NICE guidance, however it may be considered in the context of a clinical trial.

### **(4b) Radiotherapy**

- Mastectomy: Generally radiotherapy is not indicated for patients who have had a mastectomy for DCIS except in exceptional circumstances, in which case, the pros and cons of radiotherapy should be fully discussed with the MDT.
- Breast conservation: radiotherapy should be considered except in low risk patients e.g. as determined by Van Nuys Prognostic Index (see appendix 1)

## 5) **Locally Advanced Disease and Inflammatory Carcinoma**

- Core biopsy for tumour grade, ER/ PR and HER-2 status
- Staging investigations pre-treatment and post chemotherapy
- Primary chemotherapy/endocrine therapy: If responding: re-image with ultrasound/mammogram +/- MRI after three cycles and joint surgery/oncology consultation.
- If not responding: discuss at joint surgery/oncology consultation.
- Plan simple mastectomy and axillary clearance (level III) after six cycles if responding, then chest wall and SCF radiotherapy (avoiding axilla).
- If ER positive, or ER negative/PR positive: adjuvant hormonal therapy as indicated.

## 6) **Primary Breast cancer follow-up guidelines**

### **Mammography**

- First mammogram one year post-op and then annual mammography until 5 years post-op for breast conserving surgery and mastectomy
- If < 50 years: continue mammography, as above, until 50 years, then NHSBSP

### **Clinical follow-up**

Regionally agreed follow up guidelines are currently being explored within the work plan of the NICaN Breast regional group.

Patients to be discharged to NHSBSP at 50 yrs of age or after 5 years of follow-up if > 50 yrs old.

### **Relapse:**

Any patient diagnosed with disease relapse must be re-staged and have all clinical details discussed fully at the multi-disciplinary team meeting prior to treatment unless clinical urgency dictates otherwise.

## **7) Guidelines for referral to consultant in palliative medicine. Combined palliative medicine/oncology clinic for patients with breast cancer**

In general, patients will have either local recurrence or metastatic disease should be referred.

Patients can be referred with uncontrolled symptoms of which the following are the most common examples:

- pain: usually of complex nature - may be neuropathic, bony or hepatic
- dyspnoea
- nausea and vomiting
- complex fungating lesions
- patients with symptomatic cerebral metastases

Patients with complex psychosocial issues, which impact on their symptoms, may also be referred.

## **8) Lymphoedema**

Lymphoedema is a chronic, life long condition that may occur as a result of breast surgery and/or radiotherapy involving the lymph nodes. In the later stages of disease, lymphoedema may also occur when the lymph nodes are involved in the disease process or when there is increased pressure within the pelvis.

Lymphoedema is more easily and cost-effectively managed if preventative advice, screening and treatment access are built into a programme of care. For this reason, it is planned to implement pre and post-operative limb volume measurements to be used as a screening tool for those patients at high risk of developing lymphoedema. A method of recording and auditing this has been built into the regional breast cancer minimum data set.

Access to Lymphoedema Services has undergone considerable change in the last year following the publication of the CREST Guidelines for the diagnosis, assessment and management of lymphoedema (2008)

[www.dhsspsni.gov.uk/index/hss/gain.htm](http://www.dhsspsni.gov.uk/index/hss/gain.htm). The Lymphoedema Network Northern Ireland (LNNI), a managed clinical network to co-ordinate lymphoedema services throughout the province, has supported this.

Details of the referral process, who to refer to and copies of referral forms are all available on the LNNI website: [www.lnni.org](http://www.lnni.org).

## **References**

- 1) Early and locally advanced Breast Cancer: diagnosis and treatment, National Institute of Clinical Excellence, February, 2009
- 2) Advanced breast cancer: diagnosis and treatment, National Institute of Clinical excellence, February, 2009
- 3) Improving outcomes in Breast Cancer, National Institute of Clinical Excellence, August, 2002
- 4) Surgical guidelines for the management of Breast Cancer, British Association Surgical oncologists (BASO), 2009

## Appendix 1

### Van Nuys Prognostic Index

	<b>1</b>	<b>2</b>	<b>3</b>
<b>Size (mm)</b>	< 15	16 – 40	> 41
<b>Margin (mm)</b>	> 10	1 – 9	< 1
<b>Pathology</b>	low / int grade no necrosis	low / int grade necrosis	high grade + / - necrosis

**Score:**

- 3 – 4    **Good**                    consider no radiotherapy
- 5, 6, 7    **Intermediate**            recommended radiotherapy
- 8 – 9    **High Risk**                    consider mastectomy



## REGIONAL BREAST GROUP

<b>Document Title</b>	<b>Guidelines for systemic therapy management and treatment of Breast Cancer</b>
<b>Document Date</b>	December 2009_Version 3
<b>Document Purpose</b>	<p>This guidance has been produced to support Oncologists in the delivery of systemic therapies for the treatment and management of breast cancer. The document provides a summary of the more detailed document – Guidelines for the management of Breast cancer, NI Breast oncologist Group (NIBOG).</p> <p>Treatment decisions for individual patients require the weighing of a multiplicity of factors, which cannot all be accounted for in a single Clinical Management Guideline (CMG). The CMG provides a description of the range of treatment options available for a clinical scenario. To maximise the benefit multi-professional working management strategies for the individual are best discussed at a multidisciplinary team meeting (MDM).</p>
<b>Authors</b>	Dr Alison Clayton, Oncologist, Belfast Trust Dr Jackie Clarke, Oncologist, Belfast Trust

<b>Version Control</b>	
Version 1	Circulated 13 <sup>th</sup> October, 2009 for consultation at NICA <sup>n</sup> Breast regional Group 20 <sup>th</sup> October, 2009.
Version 2	Amendments made following meeting 20/10/09. V2 - for discussion and final sign off at meeting 9/12/09.
Version3	Final Document – formally signed off NICA <sup>n</sup> regional group 9/12/09

<b>Regional Agreements</b>	
Agreed:	NICA <sup>n</sup> Breast Regional Group 9 <sup>th</sup> December, 2009
Review:	December, 2010

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## **1) Introduction**

This guideline is for the use of systemic therapies in the treatment and management of breast cancer and provides a summary of a more detailed document, Guidelines for the Management of Breast Cancer, Northern Ireland Breast Oncologist Group (NIBOG).

Please note that details of chemotherapy regimens, doses, and administration guidelines are not within the scope of this document and reference should be made to the NIBOG guidelines for this information.

## 2) Locally advanced / inflammatory breast cancer

### 2.1 Staging

- Core biopsy to establish:
  - Histology and grade of the tumour
  - Oestrogen and progesterone receptor and HER 2 status
- Full blood count and biochemical profile.
- Baseline radiological (mammogram or ultrasound) and clinical assessment
- Radiological staging with CT thorax, abdomen and isotope bone scan to exclude systemic disease are mandatory before local treatment is planned.

### 2.2 Treatment

Treatment is multi-disciplinary. This involves primary systemic therapy usually with anthracycline-containing chemotherapy or endocrine therapy followed by loco-regional treatment (surgery and radiotherapy) and adjuvant systemic (hormonal) therapy

#### Initial systemic therapy

##### **Inflammatory carcinomas**

Inflammatory carcinomas are generally ER / PR negative.  
Chemotherapy is the standard of care:

- **Standard:**  
FEC 100 (fluorouracil, epirubicin, cyclophosphamide) 3 CYCLES followed by DOCETAXEL 3 cycles
- **For less fit patients:**  
FEC 60 or AC (adriamycin, cyclophosphamide) may be considered
- **For patients unable to receive anthracycline:**  
DOCETAXEL 3 weekly, DOCETAXEL plus CYCLOPHOSPHAMIDE; or  
PACLITAXEL weekly
- Patients with HER2 positive disease will also receive trastuzumab therapy either with taxane chemotherapy and/or following chemotherapy.

## **Locally advanced breast cancer**

- Chemotherapy regimens as for inflammatory carcinoma
- Endocrine therapy may be considered for locally advanced disease in postmenopausal, older women with ER positive disease with either **ANASTROZOLE 1 mg** or **LETROZOLE 2.5mg** daily continued for 3-4 months if responding

**Radiological assessment of the tumour is usually repeated after 3 cycles primary systemic therapy (or 3-4 months for hormone therapy) and at the end of chemotherapy to assess response**

## **Subsequent treatment**

- Patients with tumours responding to systemic therapy will then proceed to mastectomy and axillary node clearance followed by radiotherapy.
- Patients whose tumours do not respond may be considered for immediate surgery if possible; or otherwise second line chemotherapy or radiotherapy followed if possible by surgery.
- Following chemotherapy and locoregional therapy, patients with ER and/or PR positive disease should receive hormonal therapy for 5 yrs as for adjuvant therapy.
- Patients with HER2 positive disease will also receive trastuzumab therapy either with taxane chemotherapy and/or following chemotherapy.

### 3) **Adjuvant systemic therapy**

Patients following surgery for stage I – III operable breast cancer

#### 3.1 **Baseline Investigations**

**All patients:**

FBC , biochemical profile; Chest X-ray

**If T3 or T4 tumour and / or  $\geq 4$  involved lymph nodes or clinical suspicion / abnormal bloods:**

Isotope bone scan

CT thorax / abdomen ; or liver ultrasound scan and chest X-ray

#### 3.2 **Adjuvant Chemotherapy**

**Who should be offered adjuvant chemotherapy?**

- The decision to offer adjuvant chemotherapy is dependent on the tumour biological characteristics; predicted prognosis; and the estimated survival benefit to be gained from treatment.
- The Adjuvant on line programme offers acceptably accurate estimates of prognosis and benefit from adjuvant chemotherapy and can be used to aid decision-making in conjunction with the patient.

#### **Chemotherapy regimens**

**Patients with high risk node positive disease**

**FEC 100** 3 cycles followed by **DOCETAXEL** 3 cycles

**Other patients requiring adjuvant chemotherapy**

**FEC 100** 6 cycles is the standard adjuvant regimen

#### **Alternative regimens**

**FEC 60** may be used for less fit patients or lower risk patients

**CMF** (oral cyclophosphamide, methotrexate and 5 FU) x 6 cycles may be used for patients unable to receive anthracycline (e.g. impaired LVEF, active cardiac disease)

**DC** 4 cycles docetaxel plus cyclophosphamide may be used for patients with impaired cardiac function

### 3.4 Adjuvant hormonal therapy in breast cancer

Indicated for patients with tumours ER and / or PR  $\geq 3/8$  QUICK score

#### Treatment is dependent on menopausal status

For definitions of menopausal status and the QUICK score see NIBOG guidelines

#### Premenopausal women

- all patients in whom there are no contraindications should be treated with **TAMOXIFEN 20MG** daily for 5 years\*.
- Patients with a contraindication to tamoxifen may be considered for ovarian ablation or ovarian suppression with LHRH agonists for 5 years (**GOSERELIN 3.6 MG SC MONTHLY** )

#### Postmenopausal women

##### Patients already on adjuvant tamoxifen

##### *Patients who are at completion or within 3 months of completion of 5 yrs of Tamoxifen:*

- Patients with node positive disease should be offered **LETROZOLE 2.5 mg** for 5 years.
- Patients with node negative disease are at low risk of disease relapse after 5 years and the potential toxicities of Letrozole are not warranted in this group.

##### *Patients who have completed 2-3yrs of Tamoxifen:*

- Patients who have already received 2-3yrs of tamoxifen should be offered **EXEMESTANE (25 mg)** or **ANASTROZOLE (1 mg)** for a total treatment duration of 5yrs.

##### Patients at first presentation

- In keeping with International guidelines, patients may be treated either an aromatase inhibitor (ANASTROZOLE) for 5 years, or with initial tamoxifen with a subsequent switch to an aromatase inhibitor (ANASTROZOLE or EXEMESTANE) after 2-3 years. (NCCN, St. Gallen)
- Patients with contraindications to TAMOXIFEN should be treated with ANASTROZOLE or LETROZOLE for 5years

### **3.5 Adjuvant trastuzumab (herceptin) therapy**

Patients with early breast cancer which is immunohistochemistry HER2 – 3+ or HER2 FISH positive and is node-positive or node negative with tumour size > 1 cm, who have received adjuvant chemotherapy may be considered for adjuvant Trastuzumab therapy.

For contraindications, administration guidelines and cardiac monitoring guidelines see NIBOG Guidelines which reflect UK NCRI guidelines.

#### **REGIMEN:**

TRASTUZUMAB 3 weekly for up to 1 year

### **3.6 Neo-adjuvant systemic therapy for patients with operable breast cancer**

The option of preoperative systemic therapy may be discussed if appropriate. This option is considered for patients with disease which would require mastectomy for complete resection at presentation but who could potentially be considered for breast conserving surgery if the tumour responds to preoperative systemic therapy.

The same chemotherapy regimens are used as for adjuvant therapy

Clinical trials indicate similar long term outcomes for pre and post –operative chemotherapy

## 4) Metastatic breast cancer

### 4.1 Staging

Isotope bone scan

Chest x ray                      or      CT thorax / abdomen  
Liver ultrasound

### 4.2 Aims of therapy

- To palliate symptoms and maintain quality of life.
- To extend life if possible.

### 4.3 Principles of treatment

Treatment options include:

#### Specific systemic therapies:

- Endocrine therapy, chemotherapy and Trastuzumab ; supportive therapies, such as bisphosphonates
- Receptor status will guide the selection of specific systemic therapy; oestrogen and progesterone receptor estimations, HER 2 status.
- It is usual to start with endocrine therapy in ER and/or PR +ve patients, particularly with a long disease-free interval, but chemotherapy should be used where there is rapidly progressive lung or liver disease or early relapse on adjuvant hormone therapy.
- Complete staging should be repeated following 3 cycles (or 3 months) of therapy to assess response
- Specific local therapies include radiotherapy and surgery.

#### 4.4 Metastatic disease: systemic therapy guidelines – chemotherapy

Palliative chemotherapy is offered to patients with hormone receptor negative disease, or whose disease has become hormone refractory; and may also be offered to patients with hormone-sensitive disease where a rapid response is required e.g. progressive visceral disease which may soon become life threatening.

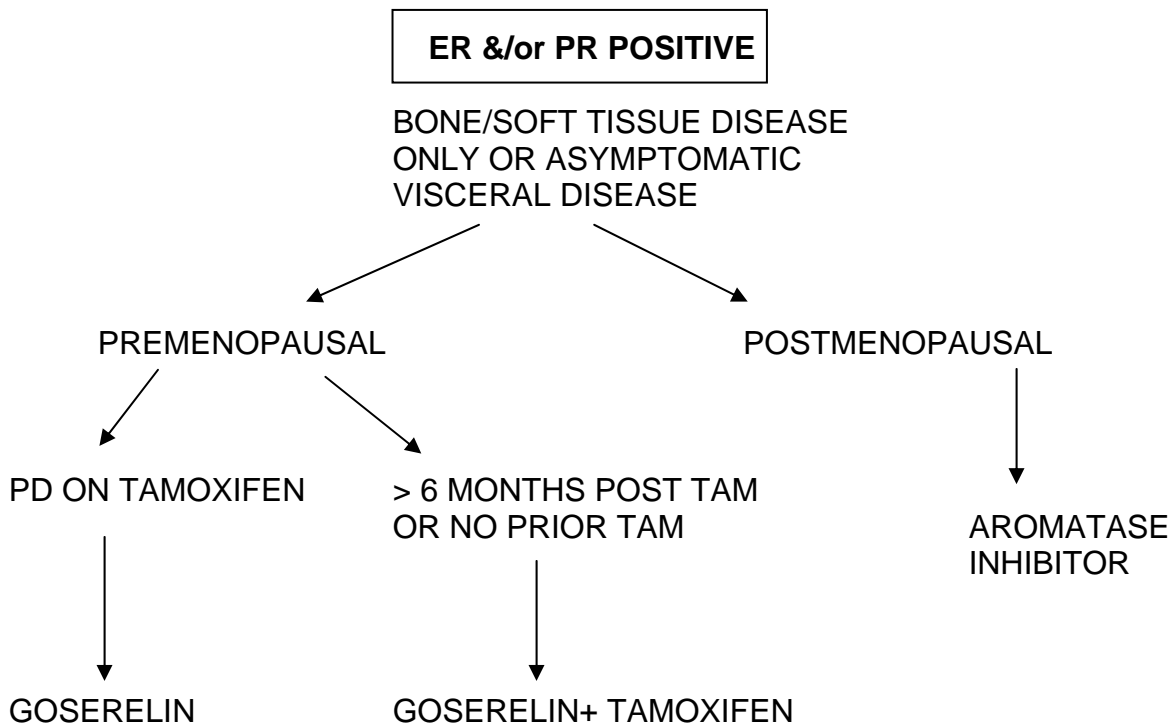
The choice of chemotherapy regimen depends on the patient's fitness, the biological characteristics of the cancer (e.g. HER-2 status) and prior therapies.

Suitable Chemotherapy regimens include:

- FEC
- Taxane (**Docetaxel** or Paclitaxel)  $\pm$  Trastuzumab (depending on HER 2 status)
- Capecitabine + **Docetaxel**
- Capecitabine
- Vinorelbine
- CMF
- Liposomal doxorubicin

Single agent Trastuzumab may be considered for patients with HER2 + metastatic breast cancer who are unsuitable for chemotherapy.

#### 4.5 Metastatic disease: systemic therapy guidelines ii – hormonal therapy



#### Options for subsequent lines of hormonal therapy:

##### Premenopausal

**Goserelin + Aromatase Inhibitor**

**Megace**

##### Postmenopausal

**Tamoxifen** (if not given as adjuvant or if progression occurred  $\geq 6$  mth after completion of adjuvant therapy)

**Alternative aromatase inhibitor** (e.g. steroidal if non steroidal given previously)

**Fulvestrant**

**Megace**

**Diethylstilboestrol**

If no clinical benefit after 3 consecutive lines of hormonal therapy or development of symptomatic visceral disease, switch to chemotherapy with lines as indicated for ER/PR negative disease.

## 5) Bone health in patients with breast cancer

### 5.1 Management of bone health in women following adjuvant therapy

#### Postmenopausal women receiving adjuvant hormonal therapy with aromatase inhibitors

Aromatase inhibitors cause loss of bone mineral density

All women commencing an aromatase inhibitor should have a DEXA scan to assess bone density and are managed if appropriate with further monitoring or bisphosphonate therapy according T score. For details refer to NIBOG guidelines which reflect national guidelines

#### Premenopausal women following adjuvant therapy

Premenopausal women who are experience premature ovarian failure as a result of adjuvant therapy are at risk of developing osteoporosis and should undergo DEXA scanning to assess bone mineral density and are also managed if appropriate with further monitoring or bisphosphonate therapy according T score. For details refer to NIBOG guidelines which reflect national guidelines.

The detailed management algorithms have been attached in Appendix 2 of this document

### 5.2 Bisphosphonates in metastatic disease

- Patients with lytic bone metastases should receive bisphosphonate therapy
- Optimal duration of therapy is uncertain. Consider stopping after 2 years
- Suitable bisphosphonate therapies include

**ZOLEDRONIC ACID 4 MG iv 3-4 weekly with oral calcit D3**

or

**ORAL IBANDRONATE 50 MG OD with oral calcit D3**

**NOTE:** Patients for treatment with zoledronic acid or ibandronate should have a dental assessment performed PRIOR to starting therapy and any necessary work completed before commencing bisphosphonate

## 6) Ductal carcinoma in situ

Recommendations following surgical resection:

### Radiotherapy

- All patients who have had BCT for DCIS should be considered for post operative XRT.
- Following mastectomy – radiotherapy should be considered if margins are involved or  $\leq 2$  mm

### Systemic therapy

Routine use of hormonal therapy following surgery for DCIS is not recommended

## References

- 1) Early and locally advanced Breast Cancer: diagnosis and treatment, National Institute of Clinical Excellence, February, 2009
- 2) Advanced breast cancer: diagnosis and treatment, National Institute of Clinical excellence, February, 2009
- 3) Improving outcomes in Breast Cancer, National Institute of Clinical excellence, August, 2002
- 4) Surgical guidelines for the management of Breast Cancer, British Association Surgical oncologists (BASO), 2009

**Further references to be added**

## Appendix 1

### **Summary of Clinical Protocol for the use of Radiotherapy in the Treatment of Breast Cancer (NICAN 2009)**

**Full radiotherapy protocol can be accessed via the radiotherapy department, cancer centre, Belfast City Hospital.**

- Adjuvant post operative radiotherapy is offered to all patients post breast conservation surgery and to patients at risk of local relapse post mastectomy i.e. close surgical margins, tumours > 5cm and / or 4 or more involved axillary nodes.
- The supraclavicular fossa (SCF) is irradiated if 4 or more axillary nodes are involved at the time of surgery or as part of the palliative management of SCF relapse
- Radical radiotherapy may be indicated in patients with locally advanced fungating tumours, when the breast is treated to 60Gy in continuity with the axilla and supraclavicular fossa which may be treated in 2Gy fractions to 50Gy
- Radiotherapy has a useful role in the palliative treatment of metastatic bony disease where 1 -5 fractions may be used. Any patient presenting with suspected spinal cord compression should have urgent MRI and immediate discussion with the Spinal surgical team as spinal stabilisation surgery and post operative XRT improves outcome for patients with anticipated survival more than 6 months
- Patients with isolated cerebral metastases should be referred for metastatectomy, more commonly radiotherapy is used to treat widespread cerebral metastases, where 2-5 fractions may be used according to the performance status of the patient.

#### **Radiotherapy to Breast and Chest Wall +/- Supraclavicular fossa**

1. Surgical and pathological details are discussed at Breast MDT and treatment plan agreed
2. The treatment plan is discussed with the patient at breast clinic
3. If chemotherapy is indicated, this should be administered first.
4. Rationale and practicalities of XRT are discussed and XRT booking form completed

5. The patient attends a radiotherapy planning clinic where the Oncologist discusses the common acute and long-term toxicities of XRT to the breast / chest wall ( skin reaction, radiation fibrosis, poor cosmesis, pneumonitis, rib pain , cardiac effects, teratogenicity, 0.5% risk of second cancer at 10 years) and SCF if relevant ( 5% risk of brachial plexus damage or lymphoedema and 3% risk of pneumonitis)
6. The consent form is signed at a radiotherapy planning clinic before any imaging takes place and pregnancy status confirmed in premenopausal women.
7. The patient lies on a breast board in the treatment position; the Clinical oncologist marks the area for treatment and completes the radiotherapy prescription.
8. CT planning images are acquired, medial and glancing fields are generated by virtual simulation on the advantage workstation.
9. A direct anterior field is used to treat the anterior supraclavicular fossa. This is matched to the edge of the glancing fields.
10. The data is transferred to treatment planning for dosimetry by physics staff and a hard copy plan is then signed by the oncologist
11. The finalised plan is returned to the treatment unit for final checks and scheduling of appointments
12. During radiotherapy, patients are reviewed every week by a clinician or by a suitably qualified radiographer and arrangements are made for outpatient follow-up post treatment

### **Electron boost**

Following radiotherapy to the whole breast, it may be necessary to boost the radiation dose to the tumour bed employing superficial electrons. This should be considered if there are close surgical margins or in those with other risk factors for local relapse such as young age and/or aggressive tumours.

## **Dosage and Fractionation Schedules:**

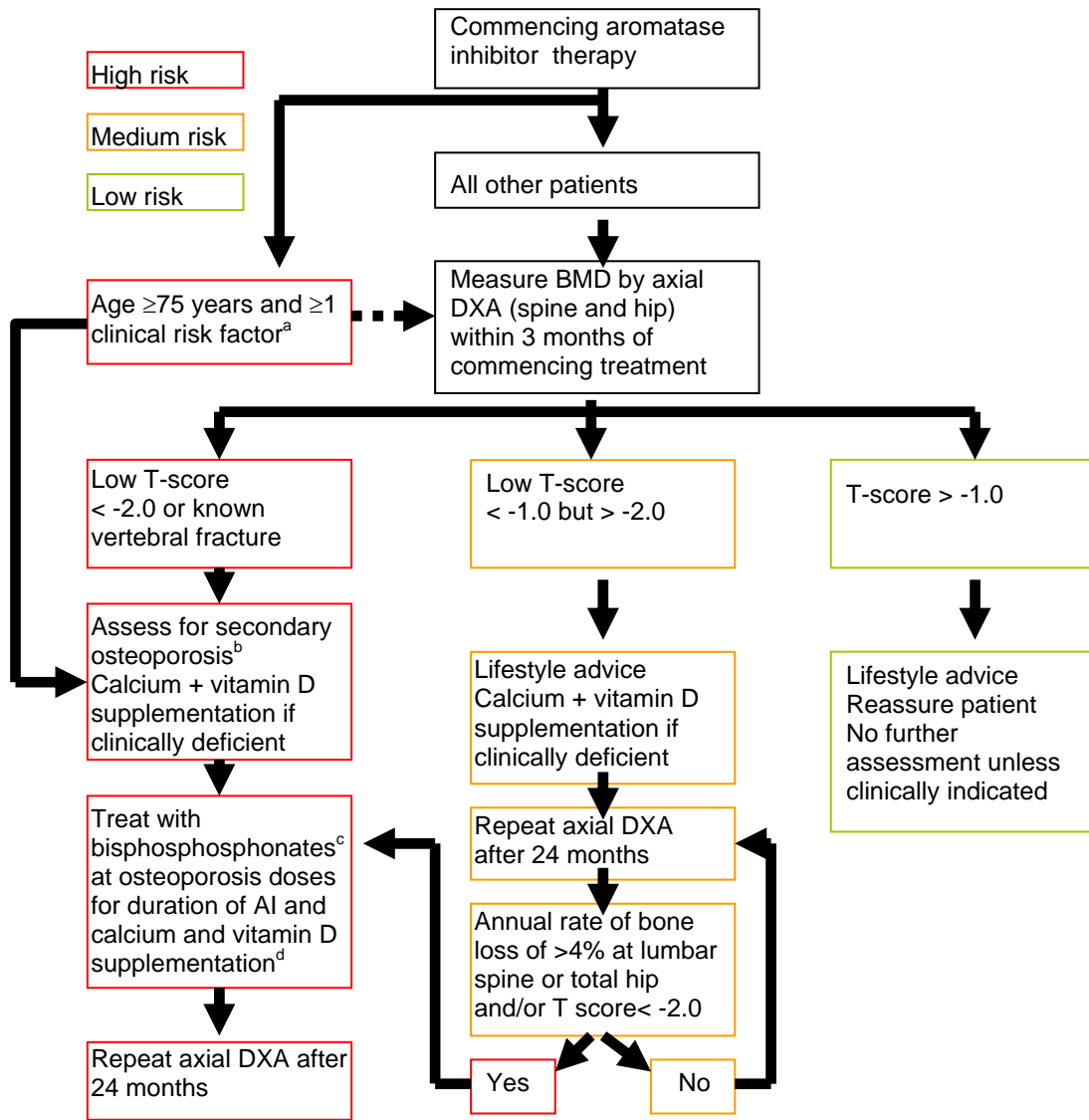
- 1. Post Breast Conserving Surgery** - 40 Gy in 15 fractions over 3 weeks **or** 50 Gy in 25 fractions over 5 weeks to START reference point using glancing fields.
  
- 2. Post mastectomy** – 40 Gy in 15 fractions over 3 weeks **or** 50 Gy in 25 fractions over 5 weeks to START reference point using glancing fields.
  
- 3. DCIS** – 50 Gy in 25 fractions over 5 weeks to START reference point using glancing fields.
  
- 4. Immediate reconstruction** – 50 Gy in 25 fractions over 5 weeks to START reference point using glancing fields. In a patient who has had a reconstruction, where the only the superficial margin is close, consideration can be given to electron treatment to the superficial flaps only.
  
- 5. Axilla / SCF (No axillary surgery)** - 45 Gy or 50 Gy in 25 Fractions over 5 weeks to isocentre of axillary field.
  
- 6. SCF (Post axillary dissection)** - 45 or 50Gy in 25 fractions over 5 weeks to 100% reference point. (for patients receiving SCF radiotherapy the breast or chest wall dose fractionation must be 50 Gy in 25 fractions)

## APPENDIX 2

### Management of bone health in women following adjuvant therapy

Postmenopausal women receiving adjuvant hormonal therapy with aromatase inhibitors

#### Management of bone loss in early breast cancer Postmenopausal adjuvant treatment with aromatase inhibitors



<sup>a</sup>Previous low-trauma fracture after age 50, parental history of hip fracture, alcohol intake of >4 units/day, diseases associated with secondary osteoporosis, prior corticosteroids for >6 months, low BMI (<22)

<sup>b</sup>ESR, FBC, oncology profile, endomysial antibodies, serum TSH

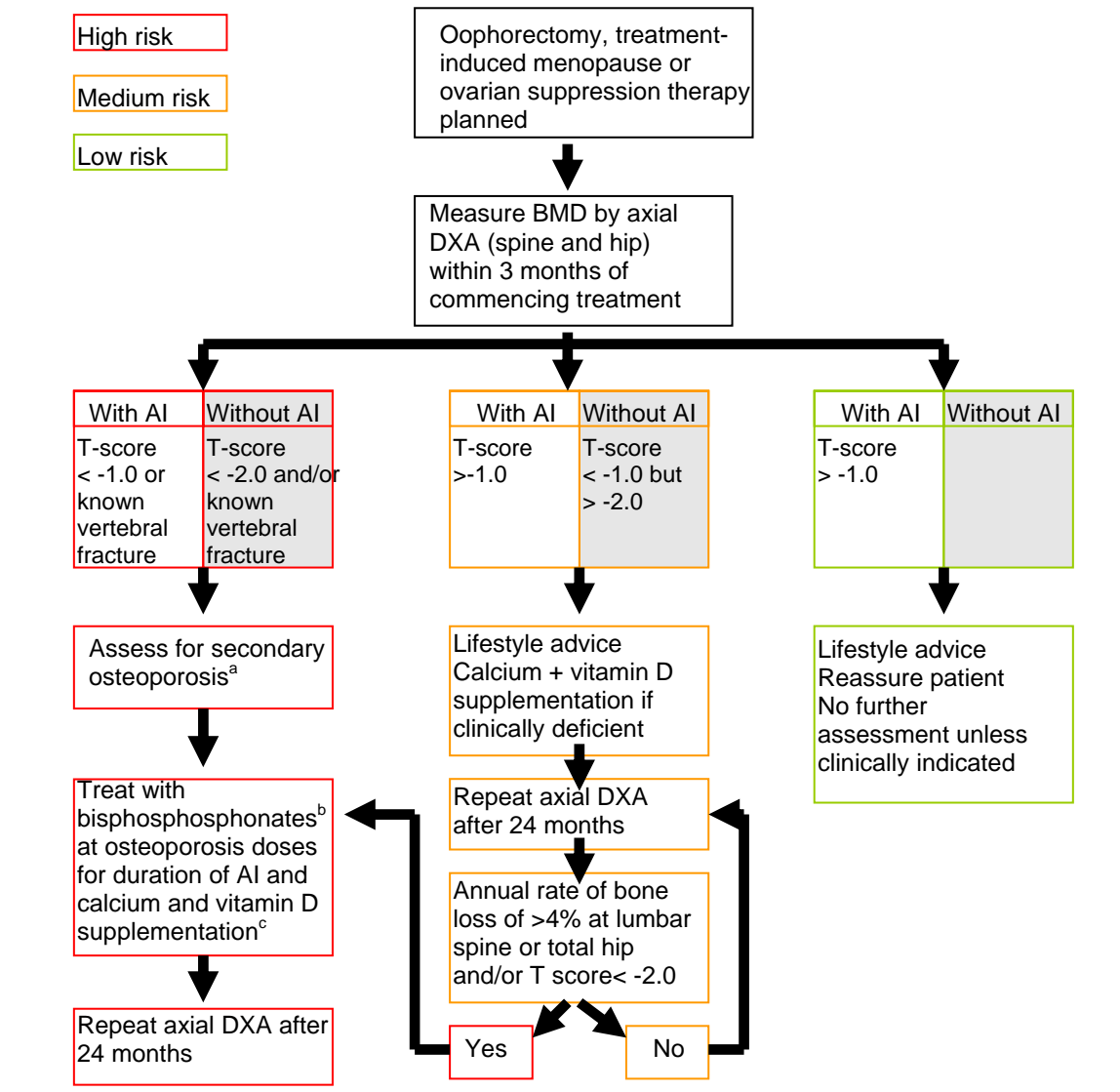
<sup>c</sup>Aledronate 70 mg per week, risedronate 35 mg per week, ibandronate (150 mg po monthly or 3 mg iv 3-monthly), zoledronic acid 5 mg iv yearly

<sup>d</sup>To be given as ≥1 g of calcium + ≥800 IU of vitamin D

## Premenopausal women following adjuvant therapy

### Management of bone loss in early breast cancer

Adjuvant treatment associated with ovarian suppression/failure with/without concomitant AI use in woman who experience premature menopause



<sup>a</sup>ESR, FBC, oncology profile, endomysial antibodies, serum TSH

<sup>b</sup>Aledronate 70 mg per week, risedronate 35 mg per week, ibandronate (150 mg po monthly or 3 mg iv 3-monthly), zoledronic acid 5 mg iv yearly  
<sup>c</sup>To be given as ≥1 g of calcium + ≥800 IU of vitamin D



## REGIONAL BREAST GROUP

<b>Document Title</b>	Imaging Guidelines for the Diagnosing and Management of Breast Cancer
<b>Document Date</b>	December, 2009_Version 2
<b>Document Purpose</b>	<p>This guidance has been produced to support the imaging involved in the diagnosis, staging and treatment of breast cancer</p> <p>Treatment decisions for individual patients require the weighing of a multiplicity of factors, which cannot all be accounted for in a single Clinical Management Guideline (CMG). The CMG provides a description of the range of treatment options available for a clinical scenario. To maximise the benefit multi-professional working management strategies for the individual are best discussed at a multidisciplinary meeting (MDM)</p>
<b>Authors</b>	<p>Dr Stephen Hall, Associate Medical Director, Southern Trust</p> <p>Dr Michael Reilly, Lead cancer clinician, Western Trust</p>

<b>Version Control</b>	
Version 1	Discussed at Regional Breast meeting 20/11/09
Version 2	Amendments made following discussion at regional meeting 20/10/09 – circulated for discussion/final sign off at meeting 9/12/09
Version 3	Inclusion of 1 amendment – formally signed off at meeting 9/12/09

<b>Regional Agreements</b>	
Agreed:	NICaN Breast Regional Group xxxxxxxx
Review:	October, 2010

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## 1. Population Screening: NHS BSP

Women between 50 and 70 years	Routine 2 view(CC/Oblique)Mammography
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## 2. Family History Imaging:

<b>Low/population risk</b>	No imaging outside NHS BSP Manage in Primary Care
<b>Raised Risk (10 year risk of 3-8% in women 40-49)</b>	Mammography – Digital preferably Frequency annually
<b>High Risk Women 30-39 years with 10 year risk greater than 8%</b>	MRI/Digital Mammography Frequency annually
<b>Women 40-49 Risk greater than 20% or dense breasts on mammography</b>	MRI Frequency annually
<b>Genetic Mutation BRCA1/2 Carriers 30-49 years of age</b>	MRI/Digital Mammography Frequency annually
<b>TP 53 20 years and older</b>	MRI Frequency annually

### 3. Breast Cancer Diagnosis:

**Patient evaluation should be part of a triple assessment in a multi-disciplinary breast clinic setting**

#### **Breast Clinic Evaluation**

When clinically indicated –  
women greater than 35 years  
Routine mammography  
2 views +/- additional views

Targeted ultrasound using high frequency probe in women of less than 35 years with mammographic imaging for clinical or ultrasound suspicion code 4/5 lesion

Ultrasound/stereotactic guided  
FNA/Core/Contact Cytology and methods of vacuum extraction should be routinely available

Consider MRI depending on local criteria and local availability

### 4. Pre-Operative Imaging:

Pre-operative localisation should be available both by stereotaxis and ultrasound

MRI preoperatively to assess contralateral breast to be considered in case of lobular carcinoma diagnosis.

## 5. Perioperative:

	Sentinel node technique is recommended using isotope injection and gamma camera and with hand-held gamma probe in theatre
--	---

## 6. Staging

Routine	PA chest radiograph
Calculate Nottingham Prognostic Index (NPI) (NPI) = size (cm x 0.2) + grade (1 – 3) + lymph node stage.  Lymph node stage score: node negative      1 1 – 3 positive      2 4 or more positive   3	Isotope bone scan CT chest, abdomen and +-pelvis with intravenous contrast enhancement and oral contrast CT brain with and without contrast enhancement in symptomatic patients MRI should be performed for equivocal bone scans.

## 7. Surveillance

<b>Mamography</b>	First mammogram one year post-op and then annual mammography until 5 years post-op for breast conserving surgery and mastectomy.  If <50 years: continue mammography, as above, until 50 years, then discharge to NHSBSP
<b>Clinical Surveillance</b>	As per surgical opinion and imaging availability

## 8. Techniques:

<p><b>Mammography</b></p>	<p>Routine 2 view mammography should be performed (preferably digital imaging) +/- special views.</p>
<p><b>Breast Ultrasound</b></p>	<p>High frequency greater than 10 MHz Imaging performed with a dedicated or aligned breast probe</p>
<p><b>CT chest, abdomen and pelvis</b></p>	<p>Examination should be performed with intravenous and oral contrast enhancement using a multi-slice volume acquisition and viewed with multiplanar reconstruction and viewed with soft tissue bone and lung pre-sets.</p>
<p><b>Breast MRI</b></p>	<p>Technique will depend on equipment and local preference. Must use a dedicated breast radiofrequency coil For cancer detection breast MRI is performed using gadolinium based contrast agent and T1 Weighted imaging technique Post contrast subtraction imaging will normally be performed in either coronal or axial planes MRI guided biopsy facility should be available</p>

## References

- 1) Early and locally advanced Breast Cancer: diagnosis and treatment, National Institute of Clinical Excellence, February, 2009
- 2) Advanced breast cancer: diagnosis and treatment, National Institute of Clinical excellence, February, 2009
- 3) Improving outcomes in Breast Cancer, National Institute of Clinical excellence, August, 2002
- 4) Guidance on screening and symptomatic breast imaging, Royal College of Radiologists 1999
- 5) The use of imaging in the follow up of patients with breast cancer, Royal College of Radiologists 1995
- 6) Guidelines on the non-surgical management of breast cancer, Royal College of Radiologists Clinical Oncology Information Network, 1999



## REGIONAL BREAST GROUP

<b>Document Title</b>	<b>Guidelines for Reporting Breast Pathology Specimens</b>
<b>Document Date</b>	November, 2009_Version 2
<b>Document Purpose</b>	<p>This guidance has been produced to support pathologists who contribute to the diagnosis, treatment and management of breast cancer.</p> <p>Treatment decisions for individual patients require the weighing of a multiplicity of factors, which cannot all be accounted for in a single Clinical Management Guideline (CMG). The CMG provides a description of the range of treatment options available for a clinical scenario. To maximize the benefit multi-professional working management strategies for the individual are best discussed at a multidisciplinary meeting (MDM)</p>
<b>Authors</b>	Dr Grainne McCusker, Pathologist, Southern Trust Dr Jennifer Somerville, Pathologist, Belfast Trust

<b>Version Control</b>	
Version 1	Discussed at Nican Breast regional group 20/10/09 and circulated to Pathology colleagues for comment
Version 2	Amendments made following comments at regional meeting and from Pathology colleagues. Formally signed off at NICaN Breast regional Meeting 9/12/09.

<b>Regional Agreements</b>	
Agreed:	NICaN Breast Regional Group – 9 <sup>th</sup> December, 2009
Review:	December, 2010

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## **GUIDELINES FOR THE REPORTING OF BREAST PATHOLOGY SPECIMENS**

### **(1) Introduction**

These guidelines for the examination and reporting of breast cancer specimens are supplementary to the following national guidance:

- Pathology Reporting of Breast Disease - A joint document incorporating the Third Edition of the NHSBSP's *Guidelines for Pathology Reporting in Breast Cancer Screening* and the Second Edition of the Royal College of Pathologists' *Minimum Dataset for Breast Cancer*. The Royal College of Pathologists and the National Health Service Cancer Screening Programmes, Publication No 58 (2004).
- Guidelines for Non-operative procedures and Reporting in Breast Cancer Screening. NHS Screening Programmes, Publication No 50 (2001).
- Tissue Pathways for Breast Pathology. The Royal College of Pathologists, 2009

## **(2) The Role of the Pathologist in the multi-disciplinary team (MDT)**

All breast cancer cases should be reviewed by a Breast Cancer Multidisciplinary Team (MDT). The Team should have a nominated Lead Pathologist as a core member of the Team and also a nominated Deputy Lead Pathologist.

Case review practice is variable and adapted to local circumstances and it need not be the sole responsibility of the lead pathologist. The lead pathologist may have specific roles in resolving differences in diagnostic opinion that arise within the team of Pathologists serving the MDT and as the primary link with external experts to whom difficult cases can be referred.

The Lead and Deputy Lead Pathologists should ensure that there is appropriate feedback to other pathologists on clinical pathological correlations and discrepancies, and that formal supplementary reports are issued if relevant to patient management.

Pathology specimens should be reported in time for clinical decision making at the MDT meeting.

All pathologists reporting breast pathology specimens should participate in the NHSBSP EQA scheme and should participate in local audit.

### **(3) Specimen Types**

#### **Diagnostic**

- Fine Needle Aspirate
- Core biopsy (clinical, ultrasound guided or stereotactic)
- Vacuum assisted core biopsy
- Open biopsy
- Localisation biopsy
- Nipple biopsy

#### **Therapeutic**

- Wide local excision/partial mastectomy (+/- cavity shave)
- Mastectomy
- Post neo-adjuvant chemotherapy excision
- Re-excision for margin clearance
- Sentinel node biopsy
- Axillary node sampling
- Axillary node clearance

#### **(4) Submission of pathology specimens to the laboratory**

Surgeons should refrain from interfering with the specimen once it has been removed from the body i.e. no opening/slicing etc, as this may lead to distortion of the tissues during fixation.

All specimens must be placed in a sufficient volume of formalin (at least twice, and preferably 5-10 times, the volume of the specimen) or other appropriate fixative inside an appropriately sized and shaped container. All specimens, particularly large specimens, should be delivered promptly to the laboratory.

Specimens should be orientated where appropriate using a code agreed between the surgeons and the local pathologists. All information required by pathology should be made available on the pathology request form.

All specimens requiring localization should have a specimen x-ray and a copy of this should be sent with the specimen to the laboratory.

#### **(5) Laboratory handling of breast pathology specimens**

The local pathology service should establish protocols for each type of diagnostic and therapeutic breast specimen type received by the laboratory, taking into account national guidance. The protocols should be regularly reviewed and updated by the Lead breast pathologist in consultation with other pathologists who participate in service delivery.

National guidance for the macroscopic examination of breast specimens is given in the NHSBSP publication number 58 “Pathology Reporting in Breast Disease”.

Access to specimen radiography and specialist radiological opinion should be available for relevant cases.

Breast tissue should only be used for the purposes of research if it is surplus to the diagnostic process. Any research should adhere to the requirements of the Human Tissue Act<sup>1</sup> and local research governance.

A risk assessment should be carried out on the handling of radio-active specimens.

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<sup>1</sup> Human Tissues Act, 2004 – An act to make provision with respect to activities including human tissue: to make provision about the transfer of human remains from certain museum collections and for connected purposes.

## **(6) Standard Pathology Reporting Requirements**

### **Non-operative Diagnostic specimens:**

Fine needle aspiration specimens – Use the pathology reporting categories C1 to C5.

Needle core biopsy specimens - Use the pathology reporting categories B1 to B5.

(The reporting categories are defined in 'Guidelines for non-operative diagnostic procedures and reporting in Breast Cancer Screening', NHSBSP Publication NO 50, 2001).

Malignant core biopsy reports should include

- presence of in situ and / or invasive disease
- histological type of tumour
- depending on local circumstances and in particular if the woman is being considered for neo-adjuvant therapy, the grade, hormone receptor and Her-2 status.

Core biopsies from B3 lesions should contain a comment on the presence or absence of epithelial atypia<sup>2</sup>.

### **Operative Diagnostic Specimens and Therapeutic Resections**

The reporting of pathology specimens from screening and symptomatic patients with benign or malignant disease should follow UK guidelines<sup>3</sup> and should fulfil the Royal College of Pathologists minimum dataset requirements.<sup>4</sup> (see appendix 1)

The use of pro-formas is strongly encouraged to ensure appropriate and uniform recording of all minimum dataset information. It is not necessary to use the forms which appear in the 'Pathology Reporting of Breast Disease' NHSBSP Publication 58 but they can be modified to suit local needs, still ensuring that all of the minimum dataset information is captured.

Additional items which might be recorded, as agreed with local MDTs:

- Comment on all margins
- Presence of skin invasion
- Comment if post neo-adjuvant (& therefore limitations of prognostic factors as appropriate)
- Extracapsular nodal spread

Additional data items for screening cases:

- Presence of histological calcification and whether benign or malignant?
- Specimen radiograph seen?
- Mammographic abnormality in specimen?

All laboratories should use the SNOMED diagnostic coding system.

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<sup>2</sup> Non-operative diagnosis, NBCSP\JP\letters2009\L1531

<sup>3</sup> Pathology reporting of breast disease –

A joint document incorporating the Third Edition of the NHSBSP's *Guidelines for Pathology Reporting in Breast Cancer Screening*

<sup>4</sup> Second Edition of the Royal College of Pathologists' *Minimum Dataset for Breast Cancer*.

## **(7) Grading and Staging Conventions**

### **Tumour grading:**

UK guidelines should be followed.

DCIS – grade and growth patterns should be stated

Invasive carcinomas – the Nottingham modification of the Bloom and Richardson system should be used.

### **Tumour staging:**

TNM classification of malignant tumours (6<sup>th</sup> edition 2002)

Invasive carcinomas – Nottingham Prognostic Index (optional)

## **(8) Use of Ancillary Laboratory Techniques**

All invasive carcinomas and all cases of Ductal Carcinoma In Situ should have their hormone receptor status assessed. Oestrogen receptor (ER) status should be determined on all cases and, if negative, progesterone receptor (PR) status determined. Some departments may choose to assess ER and PR status on all tumours. The modified Quickscore (Allred) method (0-8) should be used.

Her2 status should be assessed in line with local protocols, drawn up by the Multidisciplinary Team. In practice, HER-2 status will be assessed on virtually all invasive cancers.

Laboratories providing these services in-house must have at least conditional laboratory (eg CPA) accreditation and participate in an appropriate external quality assurance programme to ensure that their laboratory performance is satisfactory. Similarly, if laboratories refer cases to an external service provider, they must ensure that the service provider has at least conditional laboratory (eg CPA) accreditation, that they participate in an appropriate external quality assurance programme and that they achieve satisfactory results in the scheme.

## **(9) Audit**

All pathologists reporting breast cancer specimens should participate in a relevant EQA scheme and in local audit. Audit activity might include

- review of compliance with procedures for specimen examination and reporting
- review of compliance with minimum dataset reporting requirements
- review of diagnostic consistency between pathologists e.g. on tumour grading
- correlation between pre-operative diagnosis (FNA/Core) and final pathological diagnosis, with comparison to national guidelines as provided in 'Guidelines for Non-operative Diagnostic Procedures and Reporting in Breast Cancer Screening'.

The results of the audits should be discussed with all pathologists who participate in service delivery and with the MDT members (as appropriate) and used to inform future practice.

## **(10) Referral for Review or Specialist Opinion**

### **10.1 Referral for treatment**

All patients referred to a hospital within the Network for treatment following diagnosis elsewhere (including patients referred by the breast screening service) must be reviewed and discussed at the treating hospital's multidisciplinary team meeting (MDTM).

The complete diagnostic pathology report must be available at the MDTM. On occasions where it is necessary to review diagnostic material, the slides should be made available by the referring team in sufficient time for review before the MDTM.

If on review, there is any alteration to the diagnosis, this should be communicated to the original reporting pathologist and a supplementary report issued to the treating clinician.

### **10.2 Referral for specialist opinion**

Most cases of breast cancer do not need central review. In cases of diagnostic difficulty, referral will usually be made to a pathologist in the network, although referral to other specialists outside the network may be appropriate in individual cases. Cases referred for specialist or second opinion will be dealt with by the original pathologist and a report issued by them. The result of the review should be communicated back to the MDT.

All breast lymphomas should be referred to the Haematological Malignancy Diagnostic Service for confirmation of diagnosis and phenotypic analysis.

## References

1. NHS Cancer Screening Programmes and the Royal College of Pathologists. Pathology reporting of breast disease – A joint document incorporating the Third Edition of the NHSBSP's *Guidelines for Pathology Reporting in Breast Cancer Screening* and the Second Edition of the Royal College of Pathologists' *Minimum Dataset for Breast Cancer*. NHSBSP Publication No 58 (2005)
2. Non-operative Diagnosis Subgroup of the National Coordinating Group for Breast Screening Pathology. Guidelines for non-operative diagnostic procedures and reporting in breast cancer screening. NHSBSP Publication No 50 (2001)
3. TNM Classification of Malignant Tumours (6<sup>th</sup> edition)  
Sobin LH and Wittekind c (Eds.) UICC (2002)
4. Guidelines on inter-departmental dispatch of samples from patients sent to another hospital or centre for assessment and/or treatment.  
The Royal College of Pathologists (2004)
5. The role of the lead pathologist in the multi-disciplinary team, The Royal College of Pathologists, February, 2009
6. Tissue pathways for Breast Pathology, The Royal College of Pathologists, April, 2009

## Appendix 1

### BREAST CANCER HISTOPATHOLOGY MINIMUM DATASET REPORT

Surname	Forenames	Date of birth
Sex	Hospital number	NHS number
Date of reporting	Report number	
Side	<input type="checkbox"/> Right <input type="checkbox"/> Left	

---

Specimen type	<input type="checkbox"/> Localisation biopsy	<input type="checkbox"/> Open biopsy
	<input type="checkbox"/> Wide local excision	<input type="checkbox"/> Segmental excision
	<input type="checkbox"/> Mastectomy	<input type="checkbox"/> Wide bore needle biopsy
Specimen weight	..... g	
Axillary procedure	<input type="checkbox"/> No lymph node procedure	<input type="checkbox"/> Sentinel node biopsy
	<input type="checkbox"/> Axillary node sample	<input type="checkbox"/> Axillary node clearance

---

<i>In situ carcinoma</i>	<input type="checkbox"/> Not present
<input type="checkbox"/> Ductal carcinoma in situ	
DCIS grade	<input type="checkbox"/> High <input type="checkbox"/> Intermediate <input type="checkbox"/> Low <input type="checkbox"/> Not assessable
DCIS growth pattern(s)	<input type="checkbox"/> Solid <input type="checkbox"/> Cribriform <input type="checkbox"/> Micropapillary <input type="checkbox"/> Papillary
	<input type="checkbox"/> Apocrine <input type="checkbox"/> Flat <input type="checkbox"/> Other (please specify) .....
Size	..... mm (DCIS only)
<input type="checkbox"/> Lobular carcinoma in situ	
<input type="checkbox"/> Paget's disease	
Microinvasion	<input type="checkbox"/> Not present <input type="checkbox"/> Present

---

<i>Invasive carcinoma</i>	<input type="checkbox"/> Not present
Size	Invasive tumour: ..... mm (largest dimension of dominant invasive tumour focus)
	Whole size of tumour: ..... mm (invasive plus surrounding DCIS if DCIS extends > 1 mm beyond invasive)
Type	<input type="checkbox"/> No special type (ductal NST)
	<input type="checkbox"/> Pure special type (90% purity, specify components present below)
	<input type="checkbox"/> Mixed tumour type (50–90% special type component, specify components present below)
	<input type="checkbox"/> Other malignant tumour (please specify) .....

Specify type component(s) present for pure special type and mixed tumour types:

<input type="checkbox"/> Tubular/cribriform	<input type="checkbox"/> Lobular	<input type="checkbox"/> Mucinous	<input type="checkbox"/> Medullary like	<input type="checkbox"/> Ductal/no special type
<input type="checkbox"/> Other (please specify) .....				

Invasive grade	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Not assessable
Tumour extent	<input type="checkbox"/> Localised <input type="checkbox"/> Multiple invasive foci
Vascular invasion	<input type="checkbox"/> Not seen <input type="checkbox"/> Present <input type="checkbox"/> Possible
Axillary nodes present:	<input type="checkbox"/> No <input type="checkbox"/> Yes Total number ..... Number positive .....
For single node positivity, specify	<input type="checkbox"/> Metastasis (> 2 mm)
	<input type="checkbox"/> Micrometastasis (≤ 2 mm to > 0.2 mm)
	<input type="checkbox"/> Isolated tumour cells (≤ 0.2 mm)
Other nodes present	<input type="checkbox"/> No <input type="checkbox"/> Yes Total number ..... Number positive .....
Site of other nodes	.....

Excision margins (for DCIS or invasive carcinoma)

<input type="checkbox"/> Not assessable	<input type="checkbox"/> Reaches relevant margin	<input type="checkbox"/> Does not reach relevant margin
Closest relevant margin	..... mm	

Oestrogen receptor status	<input type="checkbox"/> Positive <input type="checkbox"/> Negative ..... Quick (Allred) score
	<input type="checkbox"/> Not performed