Guidelines for the Management of Adult Patients with Skin Cancers

2013
# Version Control

This is a controlled document please destroy all previous versions on receipt of a new version.

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<th>Review Date</th>
<th>Brief Summary of Change</th>
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<td>May 2009</td>
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<td>Amendments made / added Supranetwork Lymphoma pathway / GP referral guidelines / Childrens pathway Leeds / amended specialist referrals / updated incidence &amp; population figures</td>
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<td>May 2011</td>
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For the latest version of these guidelines please see the NEYHCA (Cancer) website
Please press control and click on the link below:

www.hyccn.nhs.uk/NetworkGuidelinesAndPublications/SkinNSSG.htm
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Foreword

A guideline is “not a rigid constraint on clinical practice, but a concept of good practice against which the needs of the individual patient can be considered.” (RCR 1990)

It remains the responsibility of the practising Clinicians to interpret the application of guidelines, taking into account local service constraints and the needs and wishes of the patients.

In reviewing the summary guidelines, local clinicians and managers will be required to assess whether the guidance can be met; and if not, what service developments need to be undertaken to achieve the ‘ideal service’ as defined by the available evidence.

Clinical guidelines refer to how a given patient should be clinically managed by which modality(ies) of treatment (surgery, radiotherapy, chemotherapy, biological therapy), imaging and pathology rather than detailed chemotherapy regimens and techniques of surgery or radiotherapy.

In the case of the IOG for skin cancer the area of clinical guidelines overlaps to a degree with the descriptions of the particular groups of patients which are subject to the different levels of care.

The responsibility for review purposes for clinical guidelines lies with the lead clinicians of the LSMDT / SSMDT and the Chair of the Clinical Expert Group (CEG). For compliance, the CEG, in consultation with the LSMDTs / SSMDT should produce the Alliance agreed clinical guidelines. The individual LSMDT / SSMDT, for their compliance with this measure, should agree to abide by them.

Objectives & Methodology

The Manual for Cancer Services states that the Clinical Expert Group should agree clinical and referral guidelines. Guidelines define structure, process and standards against which the development and quality of the service can be assessed through audit. They also allow the service to be reviewed against the ideal, in order to direct effective service development and investment, and ensure seamless care is delivered and maintained between primary, secondary and tertiary sectors.
1. Introduction

1.1 Risk Factors & Epidemiology

Skin cancers are very common and are the most common group of cancers within the UK, accounting for approximately 20% of all cancer registrations. The North East Yorkshire & Humber Clinical Alliance (NEYHCA (Cancer)) Plastic Surgery Department undertook 1237 surgical procedures for skin cancer in 2011. This includes treatments for Melanoma, SCC’s and high risk BCC’s. This includes 60 Sentinel node biopsies and 120 completion Lymph node dissections. (Source “My Cancer Treatment” website http://www.mycancertreatment.nhs.uk/find–your–treatment)

Incidence of skin cancers has been increasing due to the increased level of exposure of UV light exposures from both the sun and artificial sources & as a result of social change.

There are significant Regional and Sub regional variations. Mortality is relatively low, a significant demand on health services results from the associated morbidity.

1.11 Ultraviolet Exposure

Strategies for prevention are essential to avoid skin cancer affecting an increasing percentage of the population. The most important risk factor for the development of skin cancer is UV exposure, both natural and artificial. Higher risk of Malignant Melanoma (MM) is associated with a family history (seen in 1% of UK patients), multiple moles and fair, sunburn–susceptible skin types. Exposure to UV was acknowledged in The NHS Cancer Plan as a risk that needs to be addressed.

The most effective strategy for preventing skin cancer is the avoidance of exposure to UV light from the sun and artificial sources.

---

1 Improving Outcomes for People with Skin Tumours including melanoma, p11
Epidemiology clearly identifies overexposure to sunlight in people with sensitive skin types as the main risk factor. High-profile campaigns to reduce UV exposure, such as the “Slip, Slap, Slop” campaign in Australia, have reversed the rising incidence trends there, but in the UK at present very few Clinical Commissioning Groups (CCGs) in England and local health boards (LHBs) in Wales have a strategy for reducing skin cancer incidence. However, Cancer Research UK has initiated their Sun Smart campaign, funded by the UK Health Department.

1.12 Genetic Disposition
A small proportion (less than 2%) of skin cancers develop in people with a strong genetic predisposition.

There are a number of genetic conditions associated with the development of multiple skin cancers earlier in life than in the general population. The most common are described below.

The commonest genetic conditions that predispose themselves to Basal Cell Carcinoma (BCC) are the Basal Cell Naevus Syndrome (Gorlin’s syndrome), which is estimated to occur in 1 in 57,000 of the population, and Familial Melanoma (related to Dysplastic Naevus Syndrome).

This risk is increased by exposure to UV radiation, which must therefore be avoided. Sun avoidance throughout life should be promoted to prevent skin cancer.

Xeroderma Pigmentosum (XP) is a rare autosomal recessive disorder, related to Squamous Cell Carcinoma. The estimated frequency is one case per 250,000 population in the United States and Europe.

Patients with evidence of genetic predisposition and their families should be offered referral to the clinical genetics services or a specialist dermatology service. The criteria for referral for families with MM are

- Three or more family members with MM, or
- Two first-degree relatives with MM, or
- Two relatives with MM, one of whom had multiple primaries.

Patients with familial MM, Gorlin’s syndrome or XP should be reviewed by SSMDTs and be managed by dermatologists and surgeons who have expertise in these conditions.

Patients with Gorlin’s syndrome **should not** be treated with radiotherapy.

1.13 Organ Transplant / Immunocompromised Patients
There is epidemiological evidence that patients who have had an organ transplant are at high risk of developing all types of skin cancers as a result of long-term immunosuppression.
The risk increases with time following the transplant, and is higher in older patients and white-skinned people who have had excessive sun exposure.

These patients are especially at risk of developing Squamous Cell Carcinoma (SCC) of the skin and often have multiple and fast-growing tumours, which may pose difficulties in their management. As organ transplant recipients live longer, so the prevalence of skin tumours with metastases in this population will increase.

1.14 Sun Awareness
Sun Awareness is the British Association of Dermatologists'(BAD) annual drive to promote sun safety messages, and includes “Sun Awareness Week” every May.

The British Association of Dermatologists is leading a two-pronged educational publicity programme to address the gaps in public and professionals' knowledge surrounding:

- Early detection
- Access to care for possible skin cancers.

The public arm of the campaign focuses on early detection: self-checking for skin cancer and how to spot the signs of a melanoma, using the BAD’s “ABCD–Easy rules of mole checks” and other such user-friendly and easily memorable materials supplied by dermatologists. The campaign also advises the public on where to seek help, and who to expect to be referred to should there be any concerns.

The fact that a large number of people are not aware that they can have a suspicious mole checked free of charge is of real concern, and could pose a huge obstacle to the early detection of skin cancer in these individuals.

Cancer Research UK also has a “Sun smart” campaign with some helpful publications available. (For further information press control and click on the links below)

http://www.sunsmart.org.uk/about-sunsmart/sunsmart-campaign-overview
http://publications.cancerresearchuk.org/epages/crukstore.sf/en_GB/?ObjectPath=/Shops/crukstore/Categories/BrowseBySubject/SkinCancer

1.15 Sun beds
The British Association of Dermatologists (BAD) would like the government to restrict sun bed use for under–18s. The BAD is also calling for a ban on coin–operated, unmanned sun beds & legislation in England has been passed to support this. Better point of sale information should be supplied, outlining the health risks so people can make a more informed decision regarding sun bed use.
Many people do not understand the risks that these machines pose, especially when they can be found at sports centres and places that suggest they are ‘healthy’, which sends conflicting messages. The perceived health gains from tanning, such as vitamin D production, can easily be achieved by other means, including diet and supplements.

*Information taken from the BAD website. For more information or further statistics, please check the BAD website using the following link (Press control and click on the link below)

www.bad.org.uk

There are also copies of patient information leaflets for various conditions and risk factors (e.g. Bowens Disease, BCC, SCC & Melanoma) available on the BAD website if required.

See also Chapter 9 on Post Treatment Follow Up & Chapter 10 on Patient Information.

1.2 Regional Incidence & Survival

Cancer incidence, persons, ICD10 C43: Malignant Melanoma of Skin, 2006–2008

The cancer incidence statistics show the number and the rate of new cases of malignant melanoma diagnosed per year. In the UK, 11,188 new cases of this type of cancer were diagnosed, which is equivalent to an age-standardised rate of 15.7 new cases per 100,000 of the population.

Cancer mortality, persons, ICD10 C43: Malignant Melanoma of Skin, 2007–2009

Cancer mortality is the number of people who have died from a particular type of cancer. The statistics show the number and the rate of malignant melanoma deaths per year. In the UK, 2,058 people died from this type of cancer, which is equivalent to an age-standardised rate of 2.6 deaths per 100,000 of the population.

Five–year relative survival estimate, persons, ICD10 C43: Malignant Melanoma of Skin, 2000–2004

Relative survival is an estimate of the percentage of patients still alive five years on from their diagnosis with malignant melanoma, taking into account the background mortality in the general population. It is therefore an estimate of the percentage of patients who survive their cancer for at least five years.

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<tr>
<th>HYCCN data from the Cancer e Atlas</th>
<th>No. cases / deaths</th>
<th>Rate%</th>
<th>UK average</th>
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<tr>
<td>Persons incidence</td>
<td>182</td>
<td>14</td>
<td>15.7</td>
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<tr>
<td>Persons mortality</td>
<td>32</td>
<td>2.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Persons Survival 1 year</td>
<td>–</td>
<td>98.3</td>
<td>97.1</td>
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1.3 Cancer Waiting Times Standards

It is of key importance that patients are managed in a timely fashion and there are a number of important timed “access to treatment targets” against which services will be audited for best patient care.

The Current Cancer Waiting Time Standards in place are:

- Maximum of 14 days from Urgent GP Referral to Date First Seen
- Maximum of 62 days from Urgent GP referral to First Definitive Treatment
- Maximum of 31 days from Decision to Treat to First definitive Treatment

Treatment definitions can vary and whilst surgical debulking by craniotomy is a definitive treatment, surgical biopsy is not a definitive treatment.

From December 2009 the following “Going Further on Cancer Waiting Times Standards” have become operational:

- Maximum of 31 Days from Decision to Treat or Earliest Clinically Appropriate Date (ECAD) to Treatment for all chemotherapy and surgical treatments
- Maximum of 62 days from Consultant Upgrade Date to First definitive Treatment for any patient with signs or symptoms of cancer upgraded by a hospital specialist to the 62-day pathway.

From December 2010 the following additional standard applies:

- Maximum of 31 days from Decision to Treat or Earliest Clinically Appropriate Date (ECAD) to Treatment for all radiotherapy treatments.
2. Service Organisation & Provision

2.1 Primary Care Management

2.11 Skin Cancer Urgent Referral Process

**GP Assessment**

Urgent Referral should be made within 24 hours of the decision to refer, on the appropriate referral letter, by fax to the appropriate ‘hotline’ number, clearly stating that it is an URGENT referral with a high risk of cancer and falls within the 2-week wait guideline. As with any other assessment, the GP Management will include an appropriate history and examination.

Trust 2 Week Wait referral forms can be found in Appendix i

<table>
<thead>
<tr>
<th>Where there is a high clinical suspicion of:</th>
<th>Malignant Melanoma</th>
<th>Squamous Cell Carcinoma</th>
<th>Rare Skin Tumour</th>
<th>Sarcoma</th>
<th>Immunocompromised / immunosuppressed Patients</th>
<th>Patients with Gorlins syndrome</th>
<th>Patient is 24 or younger – refer to C/TYA guidelines</th>
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<td>Hull and East Yorkshire Hospitals NHS Trust L/SSMDT</td>
<td>North Lincolnshire &amp; Goole Hospitals Foundation Trust LSMDT</td>
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<td></td>
<td>Scarborough &amp; Ryedale CCG</td>
<td>Hull Teaching CCG</td>
<td>North East Lincolnshire CCG</td>
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<tr>
<td></td>
<td></td>
<td>East Riding of Yorkshire CCG</td>
<td>North Lincolnshire CCG</td>
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<td>Urgent Referral (via the 24-hour rule)</td>
<td>LSMDT</td>
<td>MMDT / SSMDT</td>
<td>LSMDT Scunthorpe General Hospital</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be faxed</td>
<td>Scarborough General Hospital</td>
<td>Castle Hill Hospital / HRI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lead: Dr Calum Lyon (York Hospitals NHS Trust)</td>
<td>Lead: Mr Muhammad Riaz</td>
<td>Lead: Dr Aamir Butt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sec: Jo Mercer</td>
<td></td>
<td>Sec: Sharon Rawlinson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phone: 01482 875875 Ext 2325</td>
<td></td>
<td>Phone: 01724 290182</td>
<td></td>
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Rare Skin Tumours Patients are registered with the SSMDT and discussed with an agreed management plan depending on the tumour type / site.

Sarcomas Patients are registered and referred to the Sarcoma MDT for a decision as regards a management.

2.12 Skin Cancer Non Urgent Referral Process

**GP Assessment**
Patients indicating a strong clinical suspicion of malignancy of:

- **High risk BCCs**
- **Other lesions** where there is low suspicion of potential skin cancer, the referral should be considered routine

In these cases, once referred, the patient will be seen within the out patient department within 5 weeks. Treatment will be within 8 weeks. However, the current local practice is for the majority of referrals to be seen within 5/52 weeks.

**Where there is a high clinical suspicion of:**

<table>
<thead>
<tr>
<th>Category</th>
<th>High Risk Basal Cell Carcinoma</th>
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<td>Also: Immunocompromised / immunosuppressed Patients</td>
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<tr>
<td></td>
<td>Patients with Gorlins syndrome</td>
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<tr>
<td></td>
<td>Patient is 24 or younger– refer to C/TYA guidelines</td>
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<th>Scarborough Hospital</th>
<th>Hull and East Yorkshire Hospitals NHS Trust</th>
<th>Northern Lincolnshire &amp; Goole</th>
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</thead>
<tbody>
<tr>
<td>Scarborough &amp; Ryedale</td>
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**Contact Information**

- **Scarborough Hospital**
  - Phone: 01723 342155
  - Fax: 01723 342489
  - Urgent Referral Fax 01724 343423

- **Hull and East Yorkshire Hospitals**
  - Phone: 01482 622353
  - Fax: 01724 387836
  - Urgent Referral Fax 01724 387704

- **Northern Lincolnshire & Goole**
  - Phone: 01472 874111
  - Fax: 01472 302426
  - Extn 1263
  - Extn 5433
### 2.2 Referral Criteria

#### 2.21 Malignant Melanoma

<table>
<thead>
<tr>
<th>Malignant Melanoma</th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
</tr>
</tbody>
</table>
| **Risk Factors** | • Excessive U.V. exposure  
• Fair skin, poor ability to tan  
• Large number of benign melanocytic naevi  
• Family history |
<p>| <strong>Commonest</strong> | Women 50% on lower leg |</p>
<table>
<thead>
<tr>
<th>locations</th>
<th>Men</th>
<th>33% on back</th>
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<tr>
<td>Consider diagnosis with pigmented lesions measuring ≥ 6mm on any part of the body, which have one or more of the following features:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Growing in shape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Changing shape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Irregular outline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Changing colour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mixed colour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ulceration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Inflammation</td>
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</tbody>
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**In-Situ / Lentigo**

All patients are registered with the LSMDT and discussed with further treatment agreed for individual patient.

**Invasive**

All patients are registered in the Core SSMDT.

In Hull the LSMDT will discuss further investigation and treatment and arranged by the Clinical Nurse Specialist (CNS)

On the South Bank and in SNEYHT the LSMDT will work with the SSMDT in order to best manage the patients' treatment options.

- Patients with atypical mole syndrome and giant congenital pigmented naevi require long term follow-up by an appropriate specialist
- There are no data contraindicating the use of HRT or OCP after melanoma
- The risk of subsequent pregnancy on the outcome from melanoma is not known
- Patients with primary melanoma greater than 1.0 mm should be automatically offered Sentinel Node Biopsy

Information on treatment plan to be sent promptly to patient's GP, with letter following each clinic visit.

### 2.22 Rare Skin Tumours

Patients are registered with the SSMDT and discussed with an agreed management plan depending on the tumour type / site.

### 2.23 Sarcomas

Patients are registered and referred to the Sarcoma MDT for a decision as regards a management.
2.24 Squamous Cell Carcinoma (SCCs)

Consider diagnosis with slowly growing non–healing lesions with a significant induration on palpation, particularly in sun–exposed sites. Frequently have a raised shouldered edge.

<table>
<thead>
<tr>
<th>Squamous Cell Carcinoma (SCC)</th>
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<tbody>
<tr>
<td>Age</td>
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<tr>
<td>Risk Factors</td>
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<tr>
<td>Commonest locations</td>
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- Cancer tends to be larger (> 1 cm) than actinic keratoses and have a palpable component deep to the skin surface.
- In Hull these are discussed at both LSMDT and SSMDT.
- LSMDTs depend upon adequacy of excision.
- For SCCs requiring a wider excision, the Clinical Specialist Nurse (CNS) arranges Plastic Surgical excision.
- On the South Bank & in SNEYHT the LSMDT will discuss the case and will refer to a plastic surgeon if it is felt necessary.

2.25 Basal Cell Carcinoma (BCCs)

<table>
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<th>Basal Cell Carcinoma (BCCs)</th>
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<td>Risk Factors</td>
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<tr>
<td>Clinical features of</td>
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</table>
| BCCs at high risk of recurrence (any of these) | • Size 2cms or more or  
• Circumstances:  
  Immunocompromised / immunosuppressed patient  
  Genetically predisposed patients (e.g. Gorlin's Syndrome)  
  Previously treated lesion  
  Flat lesion, hard thickened skin (appearance of morphoeic BCC)  
  Incompletely excised BCC |
|---|---|
| Low risk BCC - definition | For the purpose of GP referral, ‘low risk BCC’ is considered to be any BCC, other than those above.  
• If completely removed, no onward referral into secondary care required |
| Clinical presentations and histological variants of BCC |  |
| **Nodular** | Commonly on the face  
Cystic, pearly, telangiectasia  
May be ulcerated  
Micronodular and microcystic types may infiltrate deeply |
| **Superficial** | Often multiple  
Usually on upper trunk and shoulders  
Erythematous well-demarcated scaly plaques, often larger than 20 mm at presentation  
Slow growth over months or years  
May be confused with Bowen’s disease or inflammatory dermatoses  
Particularly responsive to medical rather than surgical treatment |
| **Morphoeic** | Also known as sclerosing or infiltrative BCC  
Usually found in mid-facial sites  
Skin-coloured, waxy, scar-like  
Prone to recurrence after treatment  
May infiltrate cutaneous nerves (perineural spread) |
| **Pigmented** | Brown, blue or greyish lesion  
Nodular or superficial histology  
May resemble malignant melanoma |
| **Basosquamous** | Mixed basal cell carcinoma (BCC) and squamous cell carcinoma (SCC)  
Potentially more aggressive than other forms of BCC |
2.3 Hospital specialists working in the community

Consultants and speciality and associate specialist [SAS] doctors working in the community should provide the full range of skin cancer services, including the management of low-risk BCCs.

2.4 Protocols for Registering Patients at LSMDT & SSMDT

Biopsy of Squamous Cell Carcinomas (SCC) and Malignant Melanoma (MM) lesions **SHOULD NOT** be undertaken within Primary Care. Patients **MUST** be referred to the Local Skin Multidisciplinary Team (LSMDT) or Specialist Skin Multidisciplinary Team (SSMDT).

The purpose of these protocols is to identify those patients suitable for registering at LSMDT, reducing the number of cases requiring discussion, with the aim of allowing sufficient time to discuss complex cases.

2.5 Histopathology

All skin lesion samples (excision, incision, punch biopsy and curettage) should be sent for histological examination as recommended in the NICE ‘Referral guidelines for suspected cancer’.

If a person has more than one lesion, samples should be sent in separate specimen pots with referral forms. GPs operating under DES/LES should send their low-risk BCC samples to the main histopathology laboratory/ies that are linked to their LSMDT.

2.6 Improving Outcomes Guidance & Peer Review Measures

In May 2010 NICE published a partial update of the Improving Outcomes Guidance. Recommendations and text relating to the management of low risk basal cell carcinoma (BCCs) in the community have been removed from the measures and replaced by 'Improving outcomes for people with skin tumours including melanoma (update) the management of low–risk basal cell carcinomas in the community'. All remaining recommendations in the guidance are still valid. The updated guidance contains details of the methods and evidence used to develop the updated recommendations and text.
The IOG and update can be accessed via the following link (Press control and click on the link)

http://guidance.nice.org.uk/CSGSTIM/Guidance

Please see the Guidelines for Commissioning of Community Skin Cancer Services including GP Guidelines July 2013

2.7 Rehabilitation

Cancer rehabilitation aims to maximise the patients ability to function to promote their independence and adapt to their condition. Optimise the patients’ quality of life through development and maintenance of self management enabling the patient to take an active role in adjusting to life with and after cancer.

Although rehabilitation interventions are often considered in primary terms of their physical and functional impact on patients. Rehabilitation can also have a positive impact on patients’ psychological, social, economical and spiritual health state.

The benefit of good rehabilitation services delivered in a timely manner along the patient’s pathway can be the prevention or reduction of problems, often resulting in a reduced need for health and social care. It is important that multidisciplinary teams work together to develop a holistic assessment and care plan tailored to the patients needs.

The publication of the NICE Improving Supportive and Palliative Care with Cancer 2004 has helped to raise the profile of Allied Health Professionals Working in Cancer.

3. Secondary Care Management

In order to maintain expertise, Local Skin Multidisciplinary Teams (LSMDT) must serve a population in excess of 200,000. Specialist Skin / Melanoma Multidisciplinary Teams (SSMDT / MMDT) must serve a population of at least 750,000.

Within NEYHCA there are three established Local Skin Multidisciplinary Teams (LSMDTs). Each of these LSMDTs is based within an Acute Trust.
HEYHT also hosts the Specialist Skin MDT (SSMDT).

This has been agreed by the Skin Clinical Expert Group, the Trust Lead Cancer Clinicians and the NEYHCA Cancer Management Group.
Please also see Appendix ii & iii.

### 3.1 Specialist Multidisciplinary Team (SSMDT)

**Hull & East Yorkshire Hospitals NHS Trust** provides local, diagnostic and specialist Skin Cancer services for the population of Hull and the East Riding. HEYHT also provides specialist cancer services to Scarborough Hospital (York Hospitals NHS Foundation Trust), Northern Lincolnshire and Goole Hospitals NHS Foundation Trust.

The Local, Specialist Skin Multi Disciplinary Team are held weekly at Castle Hill Hospital.
HEYHT also provides locality services for the population of Hull & East Riding.

### 3.2 Local Multidisciplinary Team (LSMDT) & Localities

**Northern Lincolnshire and Goole Hospitals NHS Foundation Trust (NLGHFT)** provides local and diagnostic skin cancer services for the population of Northern Lincolnshire and Goole, referring patients to specialist skin team in HEYHT for specialist care.

The Local Skin Multi Disciplinary Team is held fortnightly via video conferencing between Diana Princess of Wales Hospital Grimsby and Scunthorpe General Hospital & Hull when necessary.

Any melanomas with a Breslow thickness of 1.0 mm or above are referred to HEYHT for discussion at the SSMDT. Patients are referred following discussion at the NLGHFT LSMDT.
(Please section on “Referral between teams” for full details)

**Assura (taken from the Assura Operational Policy)**

North Lincolnshire Community Dermatology Service aims to provide a rapid diagnostic and treatment service for patients with skin cancer. Assura East Riding will build a service which is co-ordinated and streamlined with the aim of providing a rapid diagnostic and treatment service for cancer patients.

The group have an Operational Policy, adhere to the NEYHCA Guidelines and will participate in the Peer Review process with NLGHFT.

The objectives of Assura are:
• To provide advice and undertake appropriate treatment and follow up of invasive skin cancers
• To document a management plan to local and national guidelines
• To communicate promptly and appropriately with the relevant GP regarding diagnosis and treatment of their patients
• To communicate promptly with patients and arrange follow up appropriately
• To provide where necessary a seamless transfer of appropriate cases between various disciplines

Organisational Structure Chart

Scarborough Hospital (York Hospitals NHS Foundation Trust) provides local and diagnostic skin cancer services for the population of Scarborough, Whitby & Ryedale. Due to geography & patient choice, patients from Scarborough and Rydale CCG and East Riding of Yorkshire CCG can flow into services based within two different cancer networks, YCN and NEYHCA (Cancer).

The Local Skin Multi Disciplinary Team is held fortnightly via video conferencing between Scarborough General Hospital & York Hospitals NHS Trust.

Patients requiring onward referral to a specialist MDT should be offered a choice of referral to skin teams at HEYHT or Leeds Teaching Hospital Trust for specialist care. Please see the section on referrals for contact information.

As the Scarborough team also refer to Leeds, more information & contacts can be found in the Yorkshire Cancer Network guidance. To view the Yorkshire Cancer Network Guidelines please press control and click on the link below

Bridlington
Patients would be referred by letter / fax to the HEYHT L / SSMDT by the Consultant Dermatologist & Plastic surgeon at Bridlington District Hospital. The clinician who provides Bridlington clinics is a member of the HEYHT Core LSMDT.
For the Patient Pathway for Bridlington Patients please see the HEYHT LSMDT Operational Policy.

The remainder of this document outlines the current best medical practice, based on evidence, national and international guidance on best practice and personal experience. The guidelines are intended to act as a framework and are not intended to be prescriptive. The LSMDT / SSMDTs provide a forum for adequate consultation from all specialists likely to be involved in the patient’s care and the range of options available, with a plan for the direction of the next step in the patient pathway.

3.3 Multi Disciplinary Teams (MDTs)
- The SSMDT and LSMDT / localities should agree clear local polices for the management of Skin Cancer. These polices should be designed to ensure the coordination of high quality care between SSMDT, LSMDT, Palliative Care and community services.
• There should be rapid and efficient communication systems for liaison and cross referral between all levels of service, including primary care, psychologist, cancer genetic specialists, social workers and palliative care.

• Patients should be referred for review from LSMDT to SSMDT according to the complexity of their disease.

3.31 Local Skin Multidisciplinary Team (LSMDT)

Within the LSMDT team there should be a single designated named lead clinician for the skin LSMDT with written responsibilities agreed with the Lead clinician of the host trust. The LSMDT Lead should be a member of the core team and agree the team’s roles & responsibilities.

The LSMDT should provide the names of core team members and their cover for named roles in the team. (See LSMDT Key Documents for list of team members)

Each member should attend a regular, at least fortnightly, tumour review/ case management multidisciplinary meeting. A record of core member attendance should be maintained and the LSMDT should have a written procedure governing how to deal with referrals that need a treatment planning decision before the next scheduled meeting.

The core team specific to the LSMDT should include

• Two dermatologists
• A histopathologist
• Skin nurse specialist CNS
• LSMDT coordinator/secretary
• An NHS-employed member of the core or extended team should be nominated as having specific responsibility for users’ issues and information for patients and carers
• A member of the core team nominated as the person responsible for ensuring that recruitment into clinical trials and other well designed studies is integrated into the function of the LSMDT
• Named member responsible for Level 2 Psychological Support
• Any other additional core members named by the LSMDT
• Clinical Oncologist (see extended team list)

For each of the specialties described above there should be a nominated member and cover.

Psychological Support

At least one member of the team should have completed the training necessary to enable them to practice at level 2 for the psychological support of cancer patients & carers, with a minimum of one hour’s clinical supervision by a level 3 or 4 practitioner per month.
3.33 Extended LSMDT
The LSMDT should provide the names of members of the extended team for named roles in the team, if they are not already offered as core team members. (See LSMDT Key Documents)

The named extended team for the LSMDT should include

- Surgeon, who is a core member of a SSMDT
  
  (If the LSMDT does not have a core member who is a consultant surgeon, it should name a surgical core member of the SSMDT to which it refers patients for level 5 care, as a member of the extended team for the LSMDT.)
  
  - Clinical oncologist;
  
  - Medical oncologist.

(As with the case of the surgeon, the oncologists should be core members of the SSMDT.)

- A core member of the specialist palliative care team;
- Clinical psychologist/person agreed as able to provide counselling;
- A person agreed as able to provide advice on cosmetic camouflage;
- Clinical geneticist/person agreed as able to provide genetic counselling;
- Occupational therapist;
- Person agreed as contact point for prosthetic service;
- Person agreed as contact point for orthotics service;
- Physiotherapist;
- Person agreed as contact point for lymphoedema service.
- Pharmacist

3.32 Local Skin Multidisciplinary Team (LSMDT) – General Principles

- The core members, or their arranged cover, should be present for at least two thirds of LSMDT meetings. Cover need not necessarily be a Consultant but should be a Specialist Registrar to Career Grade Specialist.
- The core team members need to meet on an annual basis to discuss, review, agree and record at least some of the operational policies.
- The LSMDT should have an operational policy for the communication of a patient’s diagnosis of cancer to the patient’s GP. This should result in the GP being informed of the diagnosis by the end of the following working day.
- Feedback should be provided to a nominated CCG representative on the appropriateness and timeliness of urgent suspected cancer GP referrals.
- The LSMDT should have an operational policy for the identification and recording in the patient’s case notes of a single named key worker for the patient’s care at any given time (name and number of the key worker to be recorded in patients notes)
- The LSMDT should send a team member as a representative to at least two thirds of the CEG meetings.
- The LSMDT should take part in at least two meetings per year which fulfils the following:
- The authorised clinicians practising in the community and associated with the LSMDT are invited to attend;
- The progress and/or results of the network skin cancer audit are discussed;
- Teaching is given on aspects of skin cancer management.

- There should be an operational policy for the team whereby it is intended that new skin cancer patients, will be reviewed by the multidisciplinary team for discussion of initial treatment plan.
- The cases for individual LSMDT review should include those cases specified as 'level 4' care and 'level 5 and 6' care. Those at levels 5 and 6 may be referred on straight after diagnosis to SSMDTs or a supranetwork team as relevant with retrospective review by the LSMDT.
- At least those core members of the team who have direct clinical contact with patients should have attended the national advanced communications skills training programme.
- The core LSMDT at their regular meetings should agree and record individual patient's treatment plans. A record is made of the treatment plan. The record should include:
  - The identity of patients discussed;
  - The multidisciplinary treatment planning decision (i.e. to which modalities of treatment, surgery, radiotherapy, chemotherapy, biological therapy, supportive care or a combination of the same, the case is to be referred for consideration);
  - In the case of patients referred to a SSMDT, MMDT or supranetwork team for care levels 5 or 6, the team to which they are referred should be named.
- The patient is referred to the LSMDT via the appropriate co-ordinator who is responsible for the administrative support to the meeting and the out patient clinic.
- A record is kept of the attending members of the team and a summary of the discussion supplemented by proposals for the next step in the patient pathway. This may include recommendations for treatment, but they need to be incorporated with the clinical picture.
  - Treatment options are then discussed with the patient at the clinic by the relevant clinicians, preferably a Consultant, in the presence of the carers.
  - Recommendations are made and alternatives discussed before any final patient decision is made and implemented.
  - Relevant input from the LSMDT nurses, Clinical Nurse Specialist (CNS), dietician and / or SALT are vital.
  - Time should be given for questions, counselling and support, backed up by written information if at all possible. Prior to any treatment being undertaken the patient would be seen again by the relevant clinician for further explanation and consent.
- Only surgeons that are part of the core or extended LSMDT should routinely be involved in the management of patients with skin cancers. That includes surgeons working under their supervision i.e. trainees.
• The patient is reviewed at the SSMDT with a view to a decision on wide local excision & sentinel node biopsy. The clinic nurses will supplement the information by further verbal and written explanation; this is intended to reinforce and inform patients and their carers and is not a substitute.

• Written patient information should be provided to the patient.

• The MDT should undertake a patient experience exercise to obtain patient feedback on experiences of services offered.

3.34 Specialist Skin Multi Disciplinary Team (SSMDT)

SSMDT workload
The issue of viable workload for the SSMDT has been addressed by the measures covering the minimum catchment population of 750,000 and the requirement for surgical core members to perform a minimum of 15 groin plus axillary lymph node block dissections per year.

Within the SSMDT team there should be a single designated named lead clinician for the Skin SSMDT who should also be a member of the core team. (See SSMDT Key Documents for list of team members)

The SSMDT Core team should include
• Two dermatologists
• Two surgeons, at least one of whom should be a consultant surgeon trained in plastic and reconstructive surgery
• Skin nurse specialist
• Two histopathologists
• Imaging specialist
• Clinical oncologist
• Medical oncologist
• SSMDT coordinator / secretary
• An NHS-employed member of the core or extended team should be nominated as having specific responsibility for users' issues and information for patients and carers
• A member of the core team nominated as the person responsible for ensuring that recruitment into clinical trials and other well designed studies is integrated into the function of the SSMDT
• Named member responsible for Level 2 Psychological Support

For each of the specialties described above there should be a nominated member & cover.

Psychological Support
At least one member of the team should have completed the training necessary to enable them to practice at level 2 for the psychological support of cancer patients & carers, with a minimum of one hour’s clinical supervision by a level 3 or 4 practitioner per month.
3.35 Extended SSMDT

The SSMDT should provide the names of members of the extended team for named roles in the team, if they are not already offered as core team members. (See SSMDT Key Documents)

The named extended team for the SSMDT should include

- A core member of the specialist palliative care team
- Clinical psychologist/person agreed as able to provide counselling
- A person agreed as able to provide advice on cosmetic camouflage
- Clinical geneticist/person agreed as able to provide genetic counselling
- Occupational therapist
- Person agreed as contact point for prosthetic service
- Person agreed as contact point for orthotics service
- Physiotherapist
- Person agreed as contact point for lymphoedema service
- For a SSMDT sharing its catchment population with that of a MMDT: it should have a medical oncologist as a member of the extended team if not already offered as a core team member.

The SSMDT carries out the following procedures at Castle Hill Hospital

- Block lymph node dissections
- Sentinel node biopsy
- Metastatectomy / debulking for recurrent melanoma

The following cases are referred to the Royal Marsden Hospital, London or Birmingham hospitals

- Isolated limb perfusion

The following cases are referred to Leeds Teaching Hospital

- Isolated limb infusion

Reconstruction procedures involving microvascular surgical techniques.

3.4 Referral between teams

Responsibility for referral guidelines between the LSMDTs, SSMDT and supranetwork teams lies with the lead clinicians of the LSMDT, SSMDT, the Chair of the CEG and the Chair of the Cancer Management Group. (This is due to the various possible configurations of LSMDTs and the need to have agreed the particular configuration for the whole network.)

The LSMDT and SSMDT's guidelines include the following
• Patients who need level 5 care (as specified in the introduction to the skin cancer measures) are referred to a named SSMDT (or MMDT if relevant);
• Patients who need level 6 care (as specified in the Introduction to skin cancer measures) are referred to the relevant named supranetwork team, or photopheresis facility.

HEYHT / NLGHFT / Scarborough Hospital
In general, if not mentioned in the sections below, patients are discussed at the LSMDT, and then referred on to the relevant Specialist Team where available. The MDT lead clinicians of the two groups will cooperate with the management of the patients’ treatment.

Conferencing facilities are available for the Skin MDT at HEYHT.

In general, if not mentioned in the sections below, patients are discussed at the LSMDT, and then referred on to the relevant Specialist Team where available. The MDT lead clinicians of the two groups will cooperate with the management of the patients’ treatment.

Patient choice creates variations for Scarborough patients’ pathway. They can be referred to HEYHT or LTH, but consultation would take place with the Local MDT in Scarborough.

Follow up
In general, the MDT that the patient has been referred to will arrange follow up treatment. Follow up information will be passed back to the referring clinician only as a matter of courtesy. Please also see Chapter 6.

3.41 Malignant Melanoma
Refer to Consultant Dermatologist under the 2 week wait guidelines if:
• Breslow thickness is less than 1.0 mm. Attach the histology report for discussion at the Skin Cancer LSMDT for wider excision and further management.

Refer to a Consultant Plastic Surgeon who is a core member of an SSMDT under the 2 week wait guidelines if
• Breslow thickness is greater than 1.0 mm. Attach the histology report for discussion at the Skin Cancer SSMDT for automatic consideration for wide excision and SNB.
• Breslow thickness is less than 1.0mm, but there is
  - Ulceration
  - High mitotic rate (1mm² or above)
If the histology report is inconclusive or requires review with the Dermatopathologist under local LSMDT, refer to the Consultant Dermatologist in the first instance
Melanomas with Breslow thickness 1.0 mm or less, without ulceration, and with mitotic rate of 0 do not require mandatory discussion at SSMDT or referral to a Consultant Plastic Surgeon who is a core member of an SSMDT but an MDT core member is free to decide for such a discussion / referral to be made depending on individual circumstances (difficult anatomical site etc.)
3.42 Wide Excision and Sentinel Node Biopsy / Fine Needle Aspiration / Block lymph node dissections
All procedures for NEYHCA are carried out by a Consultant Plastic Surgeon who is a core member of an SSMDT

HEYHT & NLGHFT referrals
Mr Stanley is a core member of the SSMDT. (Secretary Elizabeth Roberts 01482 622306)
Mr T Davies, Medical Physicist, Castle Hill Hospital is part of the extended team involved in Sentinel Node Biopsy.
Mr. Matteucci, a core member of the plastics team, also carries out block lymph node dissections and is a core member of the SSMDT. (Secretary Helen Dainty)

Scarborough referrals
All procedures are carried out by a Consultant Plastic Surgeon who is a core member of an SSMDT

3.43 Isolated Limb Perfusion
Patients are currently referred to the Royal Marsden Hospital, London as there is no provision for this service within the NEYHCA area. Referrals to be sent to the Royal Marsden by normal referral letter or cancer referral form, to the Central Referrals Office. Mr Andrew Hayes is the Head of the skin cancer unit.

For more information please check the Royal Marsdens website (Press control and click on the link below)

http://www.royalmarsden.nhs.uk/RMH/healthcare/info4gps/patientreferrals.htm

Central Referrals Office
The Royal Marsden Hospital
Downs Road
Sutton SM2 5PT
Switchboard – 020 8642 6011
Fax: 020 8661 3143

Please note that emails are only accepted from other nhs.net addresses to ensure patient confidentiality. Since January 2006 referrals have been accepted through the Choose and Book system. There is more information at http://www.chooseandbook.nhs.uk (press control and click on the link). The Trust also accepts 'requests for advice' via Choose and Book should another healthcare professional have an oncology query but has no need for a formal appointment.

Follow up
Initial follow up would be carried out by the Royal Marsden hospital. The patient would then be referred back to a Consultant Plastic Surgeon who is a core member of an SSMDT if required, or if the patient requests it.
3.44 Immunocompromised Patients

HEYHT
A speciality doctor-led skin surveillance clinic commenced in January 2009 in the Dermatology Department in HEYHT, for the screening of patients with long standing actinic damage, recurrent non melanoma skin cancers, especially immunocompromised patients (renal, liver and cardiac transplant recipients and patients on long term immune-suppressant therapy due to transplantation). This clinic is currently run by Dr Hakiman and is nurse supported.

NLGHFT have allocated clinic slots for these patients.

Scarborough have allocated clinic slots for these patients in York & Selby.

NEYHCA are looking to initiate training for nurse practitioners involved with transplant patients to allow them refer the patient in to the appropriate clinic.

3.45 Photopheresis

Cases of erythrodermic cutaneous T-cell lymphoma, stages 3 and 4, having both skin involvement and circulating T-cell clonal cells, should be discussed with the clinician in charge of a named photopheresis facility for potential referral and treatment by photopheresis

NEYHCA patients are referred to the Supranetwork Lymphoma MDT at Leeds Teaching Hospital by either the Local Skin MDT at HEYHT or the Haematology MDT at HEYHT. Patients would be referred to Dr Di Gilson in Leeds

- Phone number for Leeds urgent referrals: 01132065141
- Leeds 2WW fax number: 01132064508

Follow up
Initial follow up would be carried out in Leeds. The patient can then be referred back to the Lymphoma Team in HEYHT if required, or if the patient requests it.

3.46 Sarcoma (Kaposi's and cutaneous)

Patients with sarcomas involving the skin
Patients are initially discussed by the LSMDT (HEYHT / NLGHFT / SNEYHT). Following a positive histology report the patient will be referred to a Consultant Plastic Surgeon who is a core member of a SSMDT

Follow up
Follow up would be carried out by the Sarcoma SMDT
3.47 Rare Skin Cancers
Patients with rare skin cancers will be discussed at the LSMDT (HEYHT / NLGHFT / SNEYHT). Following the histology report, they will be referred to a Consultant Plastic Surgeon who is a core member of an SSMDT

Follow up
Follow up would be carried out by a Consultant Plastic Surgeon who is a core member of an SSMDT

3.48 Mohs Surgery
Patients from the LSMDT or SSMDT that are suitable for Mohs Surgery are referred by letter / fax to Dr G Stables at Leeds General Hospital or Dr. PN Athavale at Sheffield Hallamshire Hospital depending on patients’ area of residence and preference.

Follow up
This is a two stage process involving Mohs surgery followed by reconstruction.

HEYHT & Scarborough refer to Leeds
Mohs surgery follow up would most likely be carried out in Leeds. Reconstruction may be carried out in either Leeds or Hull. This would dictate where follow up was provided. The patient can be referred back to a Consultant Plastic Surgeon who is a core member of an SSMDT in Hull if required.

NLGHFT refer to Sheffield
If a patient is referred to Sheffield they would most likely carry out the full procedure and provide follow up, but the patient can be referred back to a Consultant Plastic Surgeon who is a core member of an SSMDT after Mohs surgery if required.

3.49 Head & Neck
Patients with nasal mucosal melanoma, for ocular mucosal, periocular skin cancer situations and other head and neck skin cancer.

HEYHT & NLGHFT
A patient that has initially been seen by the Skin / Specialist MDT will be referred by phone & / or fax to the Head & Neck MDT for treatment which central MDT for NEYHCA, based in HEYHT, on the decision of the clinician involved. Mr Matteucci is a core member of the Head & Neck MDT.

Due to the complex nature of skin / head & neck tumours, patients’ treatment is reviewed on a case by case basis. Where there is any element of cross over between the two MDTs the clinicians will collaborate in the management of the patients' treatment.

In general, minor skin cancers will be discussed locally by the LSMDT.
The Head and Neck MDT would become involved when there is a major cancer, situated anywhere above the clavicle.

For example
- With nasal mucosal melanoma, where the tumour is situated within the nasal cavity. (Mr Matteucci would be informed)
- Ocular and periocular would initially be dealt with Mr Vize or Mr Ali, unless the tumour is invasive (When the Head and Neck MDT would become involved)
- Patients with major Squamous Cell Carcinoma
- Patients with neck nodes
- Patients that need complex reconstruction

Patients initially seen by the Head and Neck MDT would be referred to the Skin MDT when
- They have suspected malignant melanoma (Referred directly to Mr Matteucci)
- Patients with minor SCC (e.g. those requiring surveillance only)

The patient may have already been seen by a plastic surgeon and this would be recorded at the LSMDT. There is attendance of a plastic surgeon at the LSMDT. Relevant information will be cascaded by that representative to the Head and Neck MDT through the plastics department.

**Follow Up**

Follow up treatment will be provided by the MDT the patient has been referred to.

**Scarborough**

The Skin MDT discusses patients with
- Oral and nasal mucosal melanoma
- Ocular mucosal melanomas
- Periocular skin cancers
- Other head and neck skin cancer

Patients can then be referred to Hull, Leeds, Bradford or York Specialist Head & Neck Teams

**3.491 Colorectal**

Patients with anal and perianal cancer involving the skin

A patient that has initially been seen by the Skin / Specialist MDT will be referred by phone & / or fax to the Colorectal MDT for treatment, on the decision of the clinician involved.

**HEYHT**

The Skin / Specialist MDT will refer to Mr James Gunn via the Colorectal MDT Coordinator.

**NLGHFT**

The Skin MDT will refer to the NLGHFT MDT via the Colorectal MDT Coordinator.

**Scarborough**
The Skin MDT will refer to the SNEYHT Colorectal MDT via the Colorectal MDT Coordinator. If the patient needs to be further referred to a Specialist Colorectal MDT this could be in HEYHT or LTH.

Patients that have initially been seen by the Colorectal MDT would very rarely be referred to the Skin / Specialist MDT. Cases would be discussed between the two groups’ clinicians before doing so. In general referrals would only be made to the Plastics department if the patient required reconstruction.

Follow Up
Follow up treatment will be provided by the Colorectal MDT

3.492 Urology
Patients with cancer of the external male genitalia, including mucosal melanoma
A patient that has initially been seen by the Skin / Specialist MDT will be referred by phone & / or fax to the Urology MDT for treatment, on the decision of the clinician involved.

HEYHT / NLGHFT
The Skin / Specialist MDT will inform the HEYHT Urology MDT lead (Mr Matt Simms) and MDT Coordinators. If the patient needs to be referred to Leeds via the Testicular or Penile pathway, this will be arranged by Mr Simms.

Scarborough
The Skin MDT will inform the either the HEYHT MDT (see above) or the Leeds Urology MDT lead (Mr I Eardley) and MDT Coordinators. Mr Eardley is also the Supranetwork Penile MDT lead.

Follow Up
Follow up treatment will be provided by the Urology MDT

3.493 Gynaecology
Patients with cancer of the external female genitalia, including mucosal melanoma
A patient that has initially been seen by the Skin / Specialist MDT will be referred by phone & / or fax to the Gynaecological Specialist MDT for treatment, on the decision of the clinician involved.

HEYHT / NLGHFT
The Skin / Specialist MDT will inform the HEYHT Gynaecological Specialist MDT lead (Ms Marina Flynn) and Specialist MDT Coordinator.

If the patient has a malignant melanoma of the vulva Ms Flynn would inform the Skin / Specialist MDT lead (Mr Muhammad Riaz) and MDT Coordinators (Ms Gill Moverley) and would attend the Specialist MDT in order to discuss the patients treatment.
Follow Up
Follow up information will be sent from Ms Flynn to the referring clinician.

Scarborough
The Skin MDT will inform either the HEYHT Gynaecological Specialist MDT lead (see above) or the York Gynaecological MDT lead (Mr W Hunter) and MDT Coordinator. Vulval cancer cases will either be referred to HEYHT or Leeds (Dr Tim Perren).

Follow Up
In the rare case that a patient has initially been seen by the Gynaecological MDT and needs to be referred to the Skin / Specialist MDT for treatment, would be the decision of the clinician involved. Follow up treatment will be discussed between the two MDT lead clinicians and an appropriate decision will be made.

3.494 Contact numbers for skin cancer referrals to Specialist Teams

<table>
<thead>
<tr>
<th>Area of Tumour</th>
<th>Consultant HEYHT / NLGHFT / Scarborough</th>
<th>Secretary HEYHT / NLGHFT / Scarborough</th>
<th>Consultant LTH / York Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastics</td>
<td>Mr. Stanley, HEYHT</td>
<td>Irene Wilcockson 01482 622 343</td>
<td>Mr Howard Peach (Leeds)</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>Mr. Matteucci, HEYHT</td>
<td>Via Head &amp; Neck MDT Tel – 01482 624792</td>
<td>Mr Z Makura (Leeds) Mr D Sutton (Bradford) Mr Paul Whitfield (York)</td>
</tr>
<tr>
<td>Breast</td>
<td>Mr. Akali, HEYHT</td>
<td>Elizabeth Roberts/Jo Mercer 01482 622306</td>
<td>Mr Philip Turton (Leeds)</td>
</tr>
<tr>
<td>Haematology</td>
<td>Dr Hazem Sayala, HEYHT</td>
<td>Angela McLoughlin 01482 461388</td>
<td>Dr Di Gilson (Haematology MDT Leeds)</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>Mr. Platt, HEYHT</td>
<td>Elizabeth Roberts 01482 622306</td>
<td>Mr K Horgan (Leeds)</td>
</tr>
<tr>
<td>Ophthalmic</td>
<td>Mr. Vize / Mr. Ali, HEYHT</td>
<td>Claire Lane 01482 605300</td>
<td>Mr B Chang (Leeds)</td>
</tr>
<tr>
<td>Gynaecological</td>
<td>Ms Flynn, HEYHT</td>
<td>Pauline Holgate 01482 624098</td>
<td>Mr W Hunter (York) Dr Tim Perren (Leeds)</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>Mr. Morris, HEYHT</td>
<td>Jimaine Cartwright 01482 604329</td>
<td>TBC</td>
</tr>
<tr>
<td>Cardiothoracic</td>
<td>Mr Cowan, HEYHT</td>
<td>Gill Morgan 01482 673578</td>
<td>TBC</td>
</tr>
<tr>
<td>General Surgery</td>
<td>Mr P Sedman, HEYHT</td>
<td>TBC</td>
<td>TBC</td>
</tr>
<tr>
<td>Colorectal</td>
<td>Mr Gunn, HEYHT Miss McNaught, SNEYHT</td>
<td>Claire Acey 01482 622393</td>
<td>Mr I Botterill (Leeds)</td>
</tr>
</tbody>
</table>
3.495 Supra Network LSMDTs: T–Cell Lymphoma for Total Surface Electron Beam Therapy (TSEBT) / Cutaneous Lymphoma

Cases of nodular mycosis fungoides (stage 2B or over) should be referred for discussion and consideration of TSEBT;

Patients with systemic / nodal lymphomas presenting in the skin, should be referred to the haematology MDT and primary cutaneous lymphoma should be referred to the SSMDT

**HEYHT**

Patients would initially be discussed at the LSMDT at HEYHT and if necessary be referred to the HEYHT Lead Haematology MDT clinician Dr Hazem Sayala (Secretary Angela McLoughlin, Tel 01482 461388) via the Haematology MDT Coordinator Jacqui Marshall (01482 461260). Dr Sayala would then refer the patient to the Leeds Supranetwork Lymphoma MDT via Dr Di Gilson in Leeds

**NLGHFT**

---

<table>
<thead>
<tr>
<th>Area of Tumour</th>
<th>Consultant</th>
<th>Secretary</th>
<th>Consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urology</td>
<td>Mr Simms, HEYHT</td>
<td>Wendy Brooksby 01482 622188</td>
<td>MR I Eardley (Leeds)</td>
</tr>
<tr>
<td>The Royal Marsden Hospital Central Referrals Office,</td>
<td>Mr Andrew Hayes</td>
<td>Fax: 020 8661 3143 Switchboard – 020 8642 6011</td>
<td>n/a</td>
</tr>
<tr>
<td>Leeds urgent referrals:</td>
<td>n/a</td>
<td>Tel: 01132065141</td>
<td>n/a</td>
</tr>
<tr>
<td>Leeds 2WW fax number</td>
<td>n/a</td>
<td>Fax: 01132064508</td>
<td>n/a</td>
</tr>
<tr>
<td>HEYHT Skin S/LMDT Lead</td>
<td>Mr Muhammad Riaz</td>
<td>Jo Mercer 01482 875875 Ext 2325 Fax 01482622353</td>
<td>Dr G Stables (Non melanoma) Mr Howard Peach (Melanoma) Dr Di Gilson (Lymphoma Supranetwork Leeds)</td>
</tr>
<tr>
<td>NLGHFT Skin LMDT Lead</td>
<td>Dr Aamir Butt</td>
<td>Sharon Rawlinson 01724 290182 x5614</td>
<td>n/a</td>
</tr>
<tr>
<td>SNEYHT Skin LMDT Lead</td>
<td>Dr Calum Lyon (York)</td>
<td>Mandy Senior 01723 342155</td>
<td>n/a</td>
</tr>
<tr>
<td>Mohs Surgery</td>
<td>Dr G Stables Dr PN Athavale</td>
<td>Leeds Sheffield</td>
<td>Dr G Stables</td>
</tr>
<tr>
<td>Children / TYA</td>
<td>Leeds MDT</td>
<td>Sheffield MDT</td>
<td>YCN – Dan Stark 0113 2068266 SCHFT – Dr Vicki Lee / Dr Jeanette Payne 0114 271 7317</td>
</tr>
</tbody>
</table>
Patients would be discussed at the Local Skin MDT at NLGHFT and if necessary be referred to the Haematology MDT in HEYHT by Dr Jalahil for patients in Scunthorpe or Dr Speed / Dr Ciepluch for patients in Grimsby. The Haematology MDT would then refer the patient to the Leeds Supranetwork Lymphoma MDT via Dr Di Gilson in Leeds.

Scarborough
Patients would initially be discussed at the LSMDT at Scarborough and if necessary be referred to the HEYHT Lead Haematology MDT clinician Dr Hazem Sayala (Secretary Angela McLoughlin, Tel 01482 461388) via the Haematology MDT Coordinator Jacqui Marshall (01482 461260).
Dr Sayala would then refer the patient to the Leeds Supranetwork Lymphoma MDT via Dr Di Gilson in Leeds

Follow up

HEYHT
Initial follow up would be carried out in Leeds with the patient being referred back to the HEYHT Lymphoma team if required.

NLGHFT
Initial follow up would be carried out in Leeds with the patient being referred back to Dr Jalahil if required.

Scarborough
Initial follow up would be carried out in Leeds with the patient being referred back to the HEYHT Lymphoma team if required.

Referrals from the Haematology MDT
If a patient has initially been seen by the HEYHT Haematology MDT, patients presenting to the haematologists with primary skin lymphoma, who do not require systemic therapy will be referred on to the dermatologists for management via a referral to the Skin MDT.

3.496 Supranetwork Skin Lymphoma Referrals

The full policy can be found on the YCN website. Please press control and click on the following link


<p>| Supranetwork Cutaneous T Cell Lymphoma MDT Membership |
|-----------------------------------------------|---------------|--------------|
| Name             | Role                        | Arranged Cover |
| Dr Di Gilson     | Clinical Oncologist, MDT    | Dr Emma Thomas |
|                  | Lead, Leeds                 |               |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Will Merchant</td>
<td>Dermatopathologist, Leeds</td>
<td>Dr Edwards</td>
</tr>
<tr>
<td>Dr Rebecca Rose</td>
<td>Dermatologist, Leeds</td>
<td>Dr Andrew McDonagh</td>
</tr>
<tr>
<td>Dr Andrew McDonagh</td>
<td>Dermatologist, Sheffield</td>
<td>Dr Rebecca Rose</td>
</tr>
<tr>
<td>Gill Stewart</td>
<td>Lymphoma CNS</td>
<td>Loma Morr</td>
</tr>
<tr>
<td>Heather Hall</td>
<td>MDT Coordinator</td>
<td>Sharon Heathcote</td>
</tr>
<tr>
<td><strong>Extended Members</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Rod Johnson</td>
<td>Haematologist, Leeds</td>
<td></td>
</tr>
<tr>
<td>Dr Andrew Jack</td>
<td>Pathologist, Leeds</td>
<td></td>
</tr>
<tr>
<td>Dr David Slater</td>
<td>Dermatopathologist</td>
<td></td>
</tr>
</tbody>
</table>
Appendix

Yorkshire Cancer Network, North East Yorkshire & Humber Clinical Alliance, and North Trent Cancer Network

Supranetwork Skin Lymphoma Referral Pathway

<table>
<thead>
<tr>
<th>Title</th>
<th>Supranetwork Skin Lymphoma Referral Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author &amp; Owner</td>
<td>Yorkshire Cancer Network Supranetwork Skin Lymphoma MDT</td>
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<table>
<thead>
<tr>
<th>Version Control</th>
<th>Date</th>
<th>Revision summary</th>
</tr>
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<td>Version/Draft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>June 2010</td>
<td>Published</td>
</tr>
<tr>
<td>2.0</td>
<td>January 2011</td>
<td>Full review of pathway. Update to the Supranetwork Skin Lymphoma MDT referral criteria. Update to the core/extended membership list. Pathway review date changed.</td>
</tr>
<tr>
<td>2.1</td>
<td>December 2012</td>
<td>Details of referral to Teenage and Young Adult Pathway MDT included in the ‘Skin Cancer MDT’ stage. HYCCN changed to NEYHCA.</td>
</tr>
</tbody>
</table>

Pathway Details/Supporting Information

This pathway should be read in conjunction with the Supranetwork Cutaneous T-Cell Lymphoma MDT Operating Policy available from http://www.ycn.nhs.uk/html/downloads/vcn-hycnn-ntcn-cutaneous-tcelllymphomasop-2010.pdf

This pathway applies to:
Yorkshire Cancer Network (YCN)
North East Yorkshire & Humber Clinical Alliance (NEYHCA) formerly Humber and Yorkshire Coast Cancer Network (HYCCN)
North Trent Cancer Network (NTCN)

Criteria for Referral to the Supranetwork Cutaneous T-Cell Lymphoma MDT – held monthly at Bexley Wing, St James Hospital, Leeds

The following patients will be reviewed by the MDT:
- If they have Stage 2b or greater CTCL and all other patients who are suitable for TSEBT
- When the previously suggested therapy is no longer effective
- When there are problems in the patient’s management, e.g. problems tolerating recommended treatment
- If the patient requires urgent treatment that has to be started prior to MDT review, the treatment decision will be reviewed at the next MDT meeting.
- If a patient declines or is unfit for the management plan suggested by the MDT, the patient will be discussed again to review the patient’s further management

Patients with other types of lymphoma localised to the skin will, also, be reviewed at the request of their dermatologist or haematologist. The MDT aim would always be to give advice and where ever possible to return the patient to the local team for treatment.
3.497 Teenagers & Young Adults

IOG Key Principles

Who does this apply to?

- All patients aged 16–24 with cancer
- (2 age groups 16–18 years and 19–24 years)

What needs to happen?

- All patients aged 16–18 years inclusive should be referred to a Principal Treatment Centre (Young People) for treatment
- All patients aged 19–24 years inclusive should be offered referral to a Principal Treatment Centre (Young People) for treatment.
- All patients aged 16–24 years inclusive should be discussed at both a site-specific LSMDT meeting and a TYA LSMDT meeting.
- Referral of patients to a PTC (Young People), or review by both a site-specific and a TYA LSMDT should not be allowed to delay the start of urgent cancer treatment.
- For each patient, a lead medical clinician should to be identified, who will have overall responsibility for their treatment.

Ref: Children & Young People’s Improving Outcomes Guidance – Implementation – August 2008

Why?

- The 2005 NICE IOG on Children and Young People mandates this model of decision–making and care (key principles)
- These young people have particular needs in terms of communication, supportive care and environment of care, that are best served by referral
The particular spectrum of diseases between LSMDTs
This is what young people want to happen, when asked

When does referral need to happen?
As soon as you are aware of (or have a high suspicion of) a diagnosis of cancer & in time for the TYA team to be involved in decisions about pattern and place of care i.e. before the management plan is negotiated with the patient.

How is this referral made?
Referral to be made using process agreed in the Standard Operating Procedure (Set up in conjunction with the York Cancer Network)

Standard Operating Procedure

For HEYHT / Scarborough patients
Referral to be made using process set out in relevant the Standard Operating Procedures (Press control and click on the link)

http://www.hyccn.nhs.uk/NetworkGuidelinesAndPublications/CYA.htm

Sending referral and receipt of notification
The first point in sending a referral is to complete a TYA Alert, as soon as a TYA with cancer appears likely from radiological or pathological findings. This should not be delayed for confirmation at site specific MDT (SSMDT), and can be driven by doctor or clinical nurse specialist, including pathology or radiology.

Once diagnosis is confirmed
Referral from outside Leeds and by non–PPM users will be by completion and sending of the specific TYA referral proforma to the MDT co–ordinator, Kirsty Faircliffe, LTHT. They will be supported during absences by the TYA MDT clerical team and Dr Stark’s secretary, Amanda Rose (see contact list below).

Cases to be discussed must be notified to the TYA Coordinator at least 2 working days prior to the meeting, i.e. by 4pm, Tuesday before. However telephone discussion of urgent cases is likely often to be essential; the timing of the respective MDTs must not delay the starting of urgent treatments.
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Location</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dan Stark</td>
<td>Consultant</td>
<td>Bexley Wing, SJUH</td>
<td>01132068266 (Secretary Amanda Rose)</td>
</tr>
<tr>
<td>Sue Morgan</td>
<td>Nurse Consultant</td>
<td>LTHT</td>
<td>01132067799 / 3926285</td>
</tr>
<tr>
<td>Kirsty Faircliffe</td>
<td>TYA MDT Coordinators</td>
<td>Ward 39 Brotherton Wing, LGI</td>
<td>01133926286</td>
</tr>
<tr>
<td>Alison Franklin</td>
<td>Data Manager</td>
<td>LTHT</td>
<td>01132066955</td>
</tr>
<tr>
<td>Barbara Pymer</td>
<td>Research Data Clerk</td>
<td>LTHT</td>
<td>01132066955</td>
</tr>
</tbody>
</table>
### YCN Referral to Teenager and Young Adult Cancer Service (TYAS) 16-24 years

*Skin Cancer Network Pathway: v3.1 February 2013*

<table>
<thead>
<tr>
<th>Maximum timeline in days</th>
<th>YCN Referral to Teenager and Young Adult Cancer Service (TYAS) 16-24 years</th>
<th>Quality Criteria</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Positive Diagnosis – MDT Referral to TYAS</td>
<td><strong>Criteria 1</strong> Biopsy already performed in primary care or biopsies carried out in secondary care prior to positive diagnosis</td>
</tr>
<tr>
<td>2</td>
<td>Referral to TYAS MDT</td>
<td><strong>Criteria 2</strong> If patient declines the TYAS leaflet/TYAS contact, this should be documented appropriately on the referral form</td>
</tr>
<tr>
<td>4</td>
<td>Referral Received by the TYAS MDT Co-ordinator and confirmation sent</td>
<td><strong>Criteria 3</strong> If patient appointment is changed for any reason the CNS/Consultant to get in touch with the TYAS MDT Co-ordinator and relay new appointment date</td>
</tr>
<tr>
<td></td>
<td>Diagnosis Consultation (To take place locally)</td>
<td><strong>Criteria 4</strong> Any communications between Skin Cancer CNS and TYAS MDT Co-ordinator should be faxed or emailed securely via NHS NET email. All correspondence will be acknowledged by Leeds</td>
</tr>
<tr>
<td></td>
<td>Follow Breaking Bad News Consultation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYAS Contact Follow Up if requested</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metastatic/Recurrence</td>
<td></td>
</tr>
</tbody>
</table>

#### Key
- Patient information
- Key discussion points
- Holistic assessment
- Single contact with key worker

The treatment for young people with MM and SCC follows the same pathway as adults with the Specialist Skin Cancer teams. Except that the in-patient treatment should be offered on the Young Adult Ward (Ward 94) at Bexley Wing, St James’s Hospital or Ward L33 at LGI. TYAS CNS to contact patient following further treatment as required.

Pathway review date: February 2016
Yorkshire Cancer Network
Referral to Teenager and Young Adults Service 16 – 24 years
Skin Cancer Network Pathway

Pathway Details/Supporting Information

<table>
<thead>
<tr>
<th>Title</th>
<th>Referral to Teenagers and Young Adults Service (16-24 years). Skin Cancer Network Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author &amp; Owner</td>
<td>Yorkshire Cancer Network Skin Cancer Site Specific Group</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Version Control</th>
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<tbody>
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<td>-----------------</td>
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<td>1.0</td>
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</tr>
<tr>
<td>3.0</td>
</tr>
<tr>
<td>3.1</td>
</tr>
</tbody>
</table>

a) Choice of Place of Care
According to NICE Guidance, 2005, all young people with cancer aged between 19 and 24yrs, may have a choice about where to receive their care (where possible). For information to guide the young person see the NHS Choices website available from the following link http://www.nhs.uk/young-cancer-care/pages/index.aspx

b) Referral to TYAS prior to breaking Bad News
Teenagers aged 16 - 18 years should be seen by a member of the TYAS in discussion with the Skin CNS and, where possible, be present at BBN consultation.

Young people aged 19 24 yrs should be offered the opportunity to have communication with the TYA Service. This will be discussed with them by the Skin CNS. Referrals should be made via the TYA MDT Co-ordinator by NHS NET email address: Kirsty.faircliffe@nhs.net

Or the referral form (see page 4) can be faxed to 0113 39 26375. All referrals will receive a confirmation of receipt from the TYAS at Leeds.

The TYA MDT meets weekly on Thursday at 2.45pm at Level 7, Bexley Wing, St James’s Hospital, Leeds, with videoconferencing with the Radiology Department at LGI

Every 16 up to 24 year old diagnosed with cancer must be registered by the TYA MDT Co-ordinator on the TYAC National Register. This will be done following referral.
c) Metastatic Disease/Recurrence

If the patient has metastatic disease/recurrence please follow the steps below:

- The patient will be informed of diagnosis by the local skin cancer team +/- the TYAS depending on age and patient choice
- A referral to be made to the Oncologist at Leeds and the TYA MDT Co-ordinator informed at this point.
- A member of the TYA Service will attend the patient’s first Leeds OPD consultation

Main Contact Details:

TYA Service:
TYA MDT Co-ordinator: Kirsty Faircliffe
Teenage and Young Adult Service
The Paediatric Oncology Offices
D Floor
Martin Wing
Leeds General Infirmary
LS1 3EX

Tel: 0113 39 22327
Fax: 0113 39 26375

Skin Cancer Team:
LEEDS PRINCIPAL TREATMENT CENTRE TEENAGE AND YOUNG ADULT MDT referral when cancer is diagnosed in a patient aged up to their 25th birthday

<table>
<thead>
<tr>
<th>Patient Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forename</td>
</tr>
<tr>
<td>NHS Number</td>
</tr>
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<td>Address</td>
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</table>

<table>
<thead>
<tr>
<th>Referral Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referring Team:</td>
</tr>
<tr>
<td>Presumed/Confirmed Diagnosis:</td>
</tr>
<tr>
<td>Lead Consultant:</td>
</tr>
<tr>
<td>Discussed at Site Specific MDT Y/N</td>
</tr>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Recommended management plan:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Eligible for a clinical trial in that site specific MDT?</td>
</tr>
<tr>
<td>Tel:</td>
</tr>
<tr>
<td>Email:</td>
</tr>
<tr>
<td>Fax number to confirm receipt:</td>
</tr>
<tr>
<td>Investigations:</td>
</tr>
<tr>
<td>Presenting history, signs and symptoms:</td>
</tr>
<tr>
<td>(List)</td>
</tr>
<tr>
<td>Reference &amp; hospital</td>
</tr>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

| Histopath |
| Urgent GP referral: |
| YES/NO |
| GP’s Decision to refer: |
| YES/NO |
| Date GP Referral received: |

| Radiology |
| Existing Key Worker: |
| YES/NO |
| Preferred contact details: |

| Blood Film |

Guidelines for the Management of Adult Patients with Skin Cancers Version 1.8 February 2013 | Page 49
For NLGHFT Patients

Contact Dr Vicki Lee / Dr Jeanette Payne
(Please press control and click on the hospital names below to take you to the CQC entry for each hospital)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sheffield Children's Hospital</strong></td>
<td>Western Bank, Sheffield, South Yorkshire, S10 2TH</td>
</tr>
<tr>
<td></td>
<td>Tel: 0114 271 7317</td>
</tr>
<tr>
<td><strong>Oakwood Young Peoples Centre</strong></td>
<td>Longley Centre, Herries Road, Sheffield, South Yorkshire, S5 7AU</td>
</tr>
<tr>
<td></td>
<td>Tel: 0114 271 7218</td>
</tr>
<tr>
<td><strong>Ryegate Children's Centre</strong></td>
<td>Tapton Crescent Road, Sheffield, South Yorkshire, S10 2TH</td>
</tr>
<tr>
<td></td>
<td>Tel: 0114 271 7317</td>
</tr>
</tbody>
</table>
3 Tumour Evaluation

3.1 Diagnosis & Staging

Diagnosing and staging takes place in accordance with the BAD guidelines using the updated American Joint Committee (AJCC) Cancer Staging System for Melanoma. Please see Appendix iv.

3.2 Imaging & Pathology

3.21 Imaging
Separate Skin CEG Imaging guidelines can be found on the NEYHCA website and in Appendix v. of these guidelines/. (Press control and click on the link below)

www.hyccn.nhs.uk/NetworkGuidelinesAndPublications/NetworkImagingGroup.htm

3.22 Pathology
NHS histopathologists in England and Wales must work in laboratories that are seeking or have accreditation with Clinical Pathology Accreditation Ltd.

All specimens should be handled and recorded in accordance with the Minimum Dataset RCP.
(Press control and click on the links below)

http://www.rcpath.org

Minimum dataset for the histopathological reporting of malignant melanoma. RCP– February 2002 is currently under review
Pathology Group Guidelines can also be found on the NEYHCA website. (Press control and click on the link below)

www.hyccn.nhs.uk/NetworkGuidelinesAndPublications/NetworkPathologyGroup.htm

- Histological confirmation should be sought for every lesion. Ideally, there should be pre-operative histological confirmation of the diagnosis and postoperative gross and microscopic assessment of the resected specimen. However, there will inevitably be some cases where this is not possible.
- The resection specimens should be sampled in order to confirm or establish the histological diagnosis and to provide prognostic information. The prognostic information should include all of the items detailed in the National Dataset for Skin Cancer. This will also fulfil the requirements of the cancer registries. In addition, additional data items may be collected as part of local quality control, audit and research initiatives.
- Each Cancer Unit should have identified a Pathologist to whom they refer difficult histopathology specimens for a second opinion.
- The core histopathology members of the LSMDT should be taking part in a general histopathology EQA that includes skin pathology.
- Histopathology laboratories nominate a lead pathologist for each of the main cancers with responsibility for liaising with relevant local committees and clinicians and ensuring that the relevant cancers are examined, sampled and reported appropriately and in a consistent fashion.
- Cancer Centers and Units should be supported only by laboratories accredited to the standards of Clinical Pathology Accreditation (UK) Ltd, and staffed in accordance with the recommendations of The Royal College of Pathologists and the Association of Clinical Pathologists.
- All cancer networks should have easy access to appropriate immunophenotypic, molecular biological and cytogenetic facilities. Some of the latter are very specialised pathology services and may not be provided by pathology laboratories within the LSMDT or SSMDT. pg 88 IOG
- All specimens will be handled, and reported according to the guidelines agreed by the Royal College of Pathologists.
- Post operatively all specimens must be submitted for histopathological examination to the appropriate local laboratory. All Malignant Melanoma specimens with a Breslow thickness of 1.0mm and above must be discussed at the SSMDT. (Please see section on Referral between teams for full details)
Tumour Management

The Skin CEG adhere to the British Association of Dermatologists (BAD) guidelines for the management of the following tumours

- Revised U.K. Guidelines for the Management of Cutaneous Melanoma 2010
- Multi professional guidelines for the management of the patient with primary cutaneous squamous cell carcinoma 2009
• Guidelines for the management of Basal Cell Carcinoma; British Association of Dermatologists 2008
• Guidelines for management of Bowen’s Disease: 2006 update

Guidelines page on the BAD website

http://www.bad.org.uk/site/622/default.aspx
4. Precancerous Lesions, Non Malignant Melanoma Skin Cancer, (NMSC) Basal Cell Carcinoma (BCC)

Non–melanoma Skin Cancer Management

The standard effective treatment is surgical excision and all excised specimens should be sent for histopathological examination. However, there are a range of other surgical and non-surgical procedures, which are well described in clinical guidelines. Where the other non-surgical treatments exclude histological confirmation of the diagnosis, an incisional biopsy for confirmation of the diagnosis should usually be obtained before treatment.

Guidelines for Management of Bowen’s Disease: 2006 update – British Association of Dermatologists

4.1 Summary

This article represents a planned regular updating of the previous British Association of Dermatologists (BAD) guidelines for management of Bowen's disease. They have been prepared for dermatologists on behalf of the BAD. They present evidence–based guidance for treatment, with identification of the strength of evidence available at the time of preparation of the guidelines.

These guidelines have been prepared for dermatologists on behalf of the British Association of Dermatologists (BAD) and are based on the best data available at the time the report was prepared. Caution should be exercised when interpreting data where there is a limited evidence base; the results of future studies may require alteration of the conclusions or recommendations in this report. It may be necessary or even desirable to depart from the guidelines in the interests of specific patients and special circumstances. Just as adherence to guidelines may not constitute defence against a claim of negligence, so deviation from them should not necessarily be deemed negligent.

The scope, aims and methodology of the BAD guidelines process have been published elsewhere; these references should be consulted for guideline validation purposes.
Recommendations take into account simplicity, cost and healing as well as the type and validity of the published evidence base; for any treatment, there may be site-specific differences in the recommended option. The abbreviation RCT is used for “randomized controlled trial” throughout.

BD is a form of intraepidermal (in situ) squamous cell carcinoma (SCC), originally described in 1912. Genital lesions which have the histology of BD include erythroplasia of Queyrat (males), some vulval intraepithelial neoplasia (VIN) and bowenoid papulosis (either sex). There is a strong association of genital or perianal intraepithelial neoplasia in either sex with human papillomavirus (HPV) infection, although many such cases do not have the clinical morphology of BD.

The association between BD and HPV is briefly discussed and we have included some brief comments in relation to therapy and outcomes (especially for erythroplasia of Queyrat, as this is often referred to as penile BD), but a detailed therapeutic review of HPV–related epidermal dysplasia, VIN, vaginal intraepithelial neoplasia and penile intraepithelial neoplasia (PIN) is beyond the scope of this guideline. Perianal BD is not commonly treated by dermatologists but is briefly discussed as its therapy and outcome also often differ from those of BD at extragenital sites.

4.2 Clinical Description, Demographics and Variants

Typical BD presents as a gradually enlarging well-demarcated erythematous plaque with an irregular border and surface crusting or scaling. An annual incidence of 15 per 100 000 has been suggested in the U.K.; however, this figure was derived from an American study that primarily examined internal neoplasia associated with BD, and was the annual incidence rate for the 1980 U.S. white population – this may not be the same as in the less sun-exposed U.K. population.

In the U.K., the peak age group for BD is the seventh decade, it occurs predominantly in women (70–85% of cases), and about three-quarters of patients have lesions on the lower leg (60–85%). Lesions are usually solitary but are multiple in 10–20% of patients. Less common sites or variants include pigmented BD, subungual/periungual, palmar, genital and perianal (see above) and verrucous BD.

The age group, number and size of lesions, and site(s) affected may all influence therapeutic choice.
4.3 Aetiology

Reported relevant aetiological factors were discussed in the 1999 guidelines, but are briefly listed here in order to update the roles of HPV and immunosuppression. Aetiologies include:

1. **Irradiation** – solar, photochemotherapy, radiotherapy.

2. **Carcinogens** – arsenic.

3. **Immunosuppression** – therapeutic, AIDS. For example, one study demonstrated that 23% of skin cancers in renal transplant recipients were BD. This would suggest that educating immunosuppressed patients about sun exposure is important.

4. **Viral** – oncogenic HPV types such as HPV 16 are strongly implicated in the aetiology of VIN, but are also common in perianal BD, and in PIN. However, HPV DNA has also been demonstrated in some extragenital BD. A report of 28 biopsies from extragenital sites demonstrated in situ hybridization evidence of oncogenic HPV types in eight of 28 (29%); all had HPV 16/18 and two of these also had HPV 31/33/51. Of note, this study had a higher than average proportion of lesions on hands and feet (eight of 28 cases) and these accounted for 50% of the positive results.

A further study of HPV in extragenital cutaneous BD detected HPV DNA in 58% of 69 samples from 50 patients, the percentage of HPV detection being similar in exposed (55%) and unexposed areas (65%), and also between immunosuppressed and immunocompetent patients. A study of the cell proliferation activity between HPV-positive and HPV-negative BD showed similar results in each, suggesting that HPV infection alone does not induce cell proliferation in those lesions.

HPV 16 has been implicated in 60% of palmoplantar and periungual lesions. Multiple lesions of BD may occur on the distal digits ('polydactylous BD'), consistent with aetiological involvement of HPV. This has therapeutic implications, as HPV-induced BD should be responsive to agents that have a combined antiviral and antitumour effect.

5. **Others** – chronic injury or dermatoses, pre-existing skin lesions such as seborrhoeic keratoses (rarely).

4.4 Association with Other Malignancy

4.41 Internal neoplasia

Several larger studies and meta-analysis of the association between BD and internal cancers were summarized in our previous guideline. A further study of 1147 patients found the
The overall incidence of internal cancers in patients with BD to be slightly increased [115 cancers vs. 103 expected, the standardized incidence ratio (SIR) of 1.1 not being statistically significant]. However, there was an SIR of 3.2 for leukaemia in men and of 4.6 for lung cancer in men with BD before age 60 years (the overall lung cancer SIR for both sexes and all ages was 1.3).

There are various sources of potential bias in many studies of this type, and available evidence would still suggest that routine investigation for internal malignancy in patients with BD is not justified (Strength of recommendation E, Quality of evidence I; Appendix 1).

4.42 Skin malignancy
Previous studies suggested that about 30–50% of subjects with BD may have previous or subsequent non melanoma skin cancer (NMSC), mainly basal cell carcinoma. The NMSC risk after an index BD is probably similar to the overall risk of NMSC following any index NMSC (overall 35–60% 3-year risk). In the study by Jaeger et al., NMSC had an SIR of 4.3, and lip cancer of 8.2, in patients with BD. These increased risks of further BD or of other NMSC probably reflect a common solar aetiology.

4.5 Risk of Progression to Squamous Cell Carcinoma
There is no new literature to inform this debate in terms of the overall risk – ex vivo research studies to identify individual lesional risk and differentiation from other NMSC are beyond the scope of this guideline.

Most studies suggest a risk of invasive carcinoma of about 3–5% for ‘ordinary’ BD and perhaps 10% for erythroplasia of Queyrat. Perianal BD also has higher risk of invasion and recurrence (Quality of evidence II–ii), and an association with cervical and vulval dysplasia. However, these estimates are drawn from retrospective case series, may be biased by different referral patterns of lesions to different disciplines (dermatologists, surgeons etc.), and do not take account of subjects with BD who have either not requested medical advice or who have been treated in primary care. Indeed, it is unlikely that this question can be accurately answered as any group of patients who could be followed up without intervention are likely to be unrepresentative individuals (for example, elderly patients with small lesions). Risks of cervical intraepithelial carcinoma in affected women or in female sex partners of affected men with Bowenoid papulosis, and of oral papillomas and tumours in association with HPV 16–positive Bowenoid papulosis, were discussed previously.

4.6 Treatments
Evaluation of treatment studies of BD is difficult due to potential selection bias to specific forms of treatment. Similarly, healing and success rate may vary with body site. Earlier studies used clinical appearance rather than histological assessment to determine the endpoint of lesion clearance. Even for the same treatment modality, there is difficulty in directly comparing studies due to different lesion sites, sizes of lesions, and use/availability of different types of equipment and treatment regimens.25

Retrospective studies in particular may have several inherent problems – in ‘real world’ treatment of BD, dermatologists may select several different types of treatment, 26 decisions potentially being influenced by several factors such as lesion size and thickness, equipment available, and the perceived potential for poor wound healing (e.g. at sites such as the lower leg27). Even in recent controlled trials in which older treatments are compared with newer modalities, the regimen for the established treatment or the site at which it is applied may not concur with the approach used by all dermatologists.

Other than a small number of anecdotal or single series reports considered at the end of the therapeutic list, the therapeutic options have been listed in a sequence to include observation alone, topical treatments and surgical treatments; within this sequence, longer-established or less interventional treatments are considered first. This sequence does not necessarily reflect the frequency of use, importance, availability or strength of evidence for any treatment option – a summary of advice incorporating these issues and related to lesion sites and sizes is provided in Table 1.

Current U.K. product licences for many drugs listed do not include treatment of BD; all recommendations in this guideline are extrapolated from literature on BD and knowledge of other neoplastic skin lesions, and are presented on the understanding that neither the authors nor the BAD can formally recommend an unlicensed treatment.

Treatments are presented in a sequence that discusses the least invasive and topical therapies first, surgical approaches, and finally treatments that require more complex or expensive equipment or that are not as widely available.

4.61 No treatment
In some patients with slowly progressive thin lesions, especially on the elderly lower leg where healing is poor, there is an argument for observation rather than intervention.

4.62 5-Fluorouracil (Strength of recommendation B, Quality of evidence II–i)
5-Fluorouracil (5-FU) has been used topically for treatment of BD in several studies as previously summarized.3 Most of these are open trials or small case series; several used
concentrations that are not commercially available in the U.K., and some do not specify the concentration or schedule. These suggest cure rates of 90–100%.

In current clinical use, 5-FU is usually applied once or twice daily as a 5% cream for a variable period of time (between 1 week and 2 months in most studies using this concentration) to achieve disease control, and repeated if required at intervals. Lower concentrations are less effective.

Efficacy may be increased by application under occlusion, use of dinitrochlorobenzene as a vehicle (both previously referenced), iontophoresis (to improve follicular penetration) or pretreatment with a laser (to ablate the stratum corneum and thereby enhance penetration of 5-FU).

In the study of iontophoresis, only one of 26 patients had histological evidence of residual disease at 3 months after eight treatments. More recently, the erbium:YAG laser was used as a pretreatment measure on half of each lesion in three lesions from a patient with multiple BD, who was subsequently treated with twice-daily application of 5-FU cream to both sides. The response (clinical and histological) was accelerated on the side pretreated with laser.

Few studies provide details of the success rate for the currently available preparation in the U.K. (5% cream to be used once or twice daily for 3–4 weeks) as a first-line option for unselected lesions.

However, in an RCT comparing 5-FU with photodynamic therapy (PDT) the initial response rate in the 5-FU limb, after one (or two if required) cycles of once-daily application for 1 week then twice daily for 3 weeks, repeated at 6 weeks if clinically indicated, was 67%, with only 48% remaining clear at 12 months. (The comparative results are discussed in the section on PDT, below). By contrast, in a follow-up study (26 patients, clinical follow up of 24–204 months), recurrences had occurred at some point in just two patients (8%). This study used 5% 5-FU twice daily for a planned 9 weeks (actual 3–13 weeks), with a repeat cycle for recurrences, and biopsy to confirm clearance in most cases, but is a small number collected given the 10-year overall period.

As 5-FU can be very irritant, less aggressive regimens have been used for disease control rather than cure. Two applications of 5% 5-FU on a single day of each week for 3 months improved lesions in 24 of 26 patients (92%) with BD of the leg (lesions were flat with less or no erythema, and with minor or absent scaling), although long-term clearance was achieved only in a minority with this regimen.

Formal comparison with other modalities is limited to RCTs of PDT vs. 5-FU, only one of which is currently published and which showed that PDT was the more effective (see section on PDT below). In erythroplasia of Queyrat, application of 5% 5-FU cream twice daily for 4–5 weeks has been recommended but inflammation frequently limits this treatment regimen.
Table 1 Summary of the main treatment options for Bowen’s disease. The suggested scoring of the treatments listed takes into account the evidence for benefit, ease of application or time required for the procedure, wound healing, cosmetic result and current availability/costs of the method or facilities required. Evidence for interventions based on single studies or purely anecdotal cases is not included.

<table>
<thead>
<tr>
<th>Lesion characteristics</th>
<th>Topical 5-FU</th>
<th>Topical Imiquimod</th>
<th>Cryotherapy</th>
<th>Curettage</th>
<th>Excision</th>
<th>PDT</th>
<th>Radiotherapy</th>
<th>Laser</th>
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<tr>
<td>Small, single/few, good healing sitec</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<td>Large, single, good healing sitec</td>
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<td>Small, single/few,</td>
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### 4.63 Imiquimod (Strength of recommendation B, Quality of evidence I)

Imiquimod is a topical immunomodulatory heterocyclic imidazoquinoline amide that has become available since the earlier BAD guideline. It has been used as a 5% cream to treat BD, including larger diameter lesions, lower leg lesions and erythroplasia of Queyrat. It has both anti-HPV and antitumour effects, and is therefore potentially useful for HPV-associated BD/bowenoid papulosis, as well as for non-HPV-associated BD. The evidence base consists of a single small RCT, one open study plus some small case series (most two or three patients) and individual case reports. The regimen used varies between reports. Such reports are not referenced at length as it is felt that stronger evidence is required before firm conclusions can be drawn. At the time of writing, the product licence for topical imiquimod in the U.K. is for small superficial basal cell carcinomas; it is not currently licensed for use in BD.

The best evidence currently available is a single small RCT that demonstrated 73% histologically proven resolution with imiquimod (once daily for 16 weeks; lesions untreated for at least a month) vs. zero response in the placebo group. This study acknowledged that the ideal dosing regimen and cost-effectiveness require further investigation. An earlier 16–patient open study (15 having lower leg lesions; once daily application for up to 16 weeks; previously untreated lesions) documented that 14 of 15 patients (93%) who completed the study had clinical and pathological resolution of BD 6 weeks after the treatment period (one patient died of unrelated causes and was not analysed). Five lesions had an area of 5 cm² or greater.

Single cases or small case series suggest that different regimens such as cyclical treatment might be useful, and also that imiquimod may be useful for large facial...
lesions. The latter, together with lower leg lesions, are typically those that pose the greatest therapeutic challenge.

Some studies suggest that shorter treatment periods may be adequate. In the open study discussed above, six of 16 patients discontinued treatment early due to side-effects but still had lesion clearance, and in the placebo-controlled trial, three of 15 in the active limb dropped out (two being withdrawn by the investigators due to local side-effects). A few anecdotal reports and small open-label case series suggest that there may be a role for imiquimod in treatment of erythroplasia of Queyrat and in basaloid VIN.

Benefit has also been reported in the treatment of BD in immunosuppressed patients, although combining it with other modalities such as oral sulindac or 5-FU makes interpretation of the relative roles of the pairs of agents used difficult. Five renal transplant patients with BD have been treated with a combination of a local immune therapy, imiquimod cream, and a topical chemotherapeutic agent, 5% 5-FU, with clearing of the areas of SCC in situ. In addition, there is evidence that cytokines induced by imiquimod may improve the therapeutic efficacy of topical 5% 5-FU in BD.

4.64 Cryotherapy (Strength of recommendation B, Quality of evidence II–i)

The results reported vary, probably reflecting differences between studies in the techniques and regimens used. As previously summarized, the failure rate varies from zero to about 35%, the larger series suggesting a failure or recurrence rate in the order of 5–10% provided that adequate cryotherapy is used (e.g. liquid nitrogen (LN2) cryotherapy, using a single freeze–thaw cycle (FTC) of 30 s, two FTCs of 20 s with a thaw period, or up to three single treatments of 20 s at intervals of several weeks). Such doses do, however, cause discomfort and may cause ulceration, especially on the lower leg.

In an RCT of PDT vs. cryotherapy, the latter produced 100% clearance in 20 patients with one to three treatments of LN2 using one FTC of 20 s on each occasion (50% success after a single treatment). Ulceration was observed following cryotherapy in 25% of lesions. There were two (10%) recurrences following cryotherapy in the 1-year follow-up period. A single treatment of PDT was significantly more effective than cryotherapy.

A prospective, nonrandomized study comparing curettage vs. cryotherapy found better healing, less discomfort and a lower recurrence rate with curettage, and cryotherapy had more complications (discussed below).

Cryotherapy appears to have a good success rate with adequate treatment (recurrences less than 10% at 12 months) but healing may be slow for broad lesions and discomfort may limit treatment of multiple lesions. Curettage and PDT both have higher success rates and less discomfort overall, but are more time-consuming and/or expensive to perform.
4.65 Curettage with cautery/electrocautery (Strength of recommendation A, Quality of evidence II–ii)

Previously summarized studies suggested a wide range of cure rates without recurrence, larger series suggesting a recurrence rate of 20%. These studies do not give details of the treatment regimens or equipment used (cautery vs. electrosiccation, number of cycles etc.).

In a prospective but nonrandomized trial of curettage and cautery (44 lesions) compared with cryotherapy (36 lesions) involving 67 patients, curettage was preferable in terms of pain, healing and recurrence rate. Seventy-four percent of lesions were on the lower leg.

Median time to healing with cryotherapy was 46 days (90 days on the lower leg) compared with 35 days (lower leg 39 days) for curetted lesions, and reported pain was significantly greater with cryotherapy. Recurrences were more likely following cryotherapy (13 of 44) compared with curettage (four of 36) during a median 2 years’ follow up, although the cryotherapy regimen was less aggressive than that used by authors in most studies of this technique (see above and comment in this Journal).

Curettage followed by cryotherapy has also been used, but reports are anecdotal and it is impossible to determine the relative contribution of the two treatments or whether the combination is better than either alone.

4.66 Excision (Strength of recommendation A, Quality of evidence II–iii)

There are no substantive new data on simple excision since the last guidelines. In retrospective studies of 65 and 155 patients, the reported recurrence rates were 4.5% and 19%, respectively. Even higher rates are recorded in some smaller studies, and at sites such as the perianal region. While it is logical that excision should be an effective treatment, the evidence base is limited. Additionally, lower leg excision wounds may be associated with considerable morbidity.

A retrospective study of 47 cases of perianal BD found a lower recurrence rate for wide excision (six of 26, 23%) than for local excision (eight of 15, 53%) or laser therapy (four of five, 80%) although this series did not include patients treated with radiotherapy (which has been recommended as a first-line treatment, discussed below). Wide surgical excision is the most commonly used treatment for perianal BD; a survey of American colorectal surgeons found that most are performing wide local excision for both small and large perianal BD lesions (96% for patients with small lesions and 87% for patients with large lesions). Prolonged follow up is recommended as late recurrences are common at this site (see the previous guideline).

Mohs micrographic surgery has become the recommended treatment for digital BD and for some cases of genital (especially penile) BD for its tissue-sparing benefits. A large retrospective series of 270 patients has reported on micrographic surgery for tissue sparing at head and neck sites (this site comprised 252 of 270 patients).
This study included 128 cases of previously treated head and neck BD. Among the 270 cases analysed, 94 had had previous cryotherapy, 18 curettage and cautery, 44 excision (10 incomplete) and one radiotherapy (some had been treated with more than one modality); nearly all referrals cited poorly defined tumour, recurrent or incompletely excised tumour, or tumour site as the rationale for micrographic surgery, so it cannot be assumed to be routinely necessary or cost-effective (Strength of recommendation B, Quality of evidence II–iii).

The mean and median number of excision levels for clearance was 2, range 1–7. Of 95 patients who had 5-year follow-up data there were six (6%) recurrences.

4.67 Photodynamic therapy (Strength of recommendation A, Quality of evidence I)

This modality requires the activation of a photosensitizer, usually a porphyrin derivative, by visible light. Systemic photosensitization, with various photosensitizers, was used with excellent results in early studies summarized previously. A recent report using systemic verteporfin, which has a much shorter duration of photosensitivity than agents used in earlier studies, has confirmed the efficacy of this approach. It has a particular role in patients with multiple BD lesions, in whom use of topical porphyrin derivatives may be expensive and timeconsuming, although topical PDT is more practical for most BD.

These guidelines refer mainly to topical PDT using topical 5–aminolaevulinic acid (ALA) or its ester, methyl aminolaevulinate (MAL).

Studies have included various illumination sources (e.g. filtered xenon arc, diode, halogen, and laser), wavelengths (red, green, and blue/violet light) and dosing schedules (both in duration of ALA application and total light energy delivered); hence comparisons between studies may be difficult to interpret. Most studies have used one or two treatments, depending on response (usually repeated at about 6 weeks if clinically necessary).

Issues such as use of analgesia, and fluorescence detection, are not addressed here but details may be found in the British Photodermatology Group guidelines for topical PDT. The previously summarized studies suggested an initial clinical clearance rate for ALA–PDT of 80–100% (most around 90%) with one or two treatments, and a recurrence rate of about 0–10% at 12 months. These figures remain valid. In a prospective open study, 44 of 50 lesions (88%) cleared after two treatments (30 of 50 after one treatment, 60%) although two patients failed to clear after four treatments; this study, which used a halogen red light source, had a 31% 12-month recurrence rate in the 48 initially responsive lesions.

Similarly, a departmental review documented that 117 of 129 lesions (91%) were cleared, and a trial vs. 5-FU found that 29 of 33 lesions (88%) cleared after one or two treatments.

An open study using ALA–PDT specifically for large diameter and multiple BD lesions showed that 35 (88%) of 40 large patches of BD, all with a maximum diameter > 20 mm, cleared following one to three treatments, although four patches recurred within 12 months.
In 10 further patients with multiple (three or more) patches of BD, 44 (98%) of 45 patches cleared, although four lesions recurred over 12 months.\textsuperscript{54}

Digital BD was treated with PDT in four patients, with good cosmetic and functional results (one recurrence at 8 months responded to retreatment);\textsuperscript{55} the schedule was different from that in most studies (2% ALA solution, occluded for 16 h, two treatments of 240 J cm\textsuperscript{2} 90 min apart using a 630-nm diode source). There are additional single case reports. There are several comparative studies involving PDT, as follows.

4.68 Comparison with other treatments
ALA-PDT for BD has been compared with cryotherapy\textsuperscript{45} and with 5-FU,\textsuperscript{30} each in an RCT involving 40 patients. PDT proved superior in terms of efficacy and adverse events in comparison with 5-FU, as well as being less painful than cryotherapy. Both studies used a PDT schedule of 20% ALA applied 4 h before irradiation with narrowband red light. The cryotherapy study is discussed above and was summarized in the 1999 guideline.\textsuperscript{3}

In the comparison with 5-FU, this was applied as 5% cream once daily for a week and then twice daily for 3 weeks; either treatment was repeated at 6 weeks if necessary. Initial clearance rates (PDT vs. 5-FU) were 88% vs. 67%, and 12-month rates were 82% vs. 48%, with more short-term side-effects in the 5-FU group.\textsuperscript{30}

Topical MAL-PDT has been compared with clinician’s choice of cryotherapy or 5-FU in a 40-centre European trial of 225 patients with 275 lesions of BD:\textsuperscript{56} MAL was applied for 3 h and sites illuminated with a broadband red light. Lesion complete response rates 3 months after last treatment were similar with MAL-PDT (107 of 124; 86%), cryotherapy (75 of 91; 82%) and 5-FU (30 of 36; 83%). PDT gave superior cosmetic results compared with cryotherapy or 5-FU. MAL-PDT is now approved in many countries for the treatment of actinic keratoses, basal cell carcinomas and BD.

4.69 Comparison between wavelengths
Green light (29 patients) was compared with red light (32 patients) in an RCT using ALA-PDT for BD but was inferior in terms of initial clearance (94% vs. 72%) and 12-month clearance (88% vs. 48%) and had no advantages in terms of pain (which was the rationale for the investigation).\textsuperscript{57} Violet light irradiation (10-20 J cm\textsuperscript{2}, after application of ALA for 8 h) was used in six patients with BD, including one with multiple lesions involving 50% of the scalp, the rationale being the lower light dose required for production of phototoxicity.\textsuperscript{58}
Despite the theoretical risk of reduced light penetration compared with red light PDT, the solitary lesions responded in all four evaluable patients (one dropped out for unrelated reasons) and the large area of scalp involvement showed a 90% response, 50% of the remaining area responding to retreatment. However, there has been no direct comparison with other wavelengths.

PDT has been used specifically in immunosuppressed subjects, in an open trial involving 20 transplant recipients and 20 immunocompetent controls with histologically confirmed actinic keratoses or BD (one or two treatments, 20% ALA for 5 h, 75 J cm\(^{-2}\) of visible light delivered at 80 mW cm\(^{-2}\)).

The cure rates in both patient groups were comparable at 4 weeks (86%) but were significantly lower in transplant recipients than in controls at 12 and 48 weeks (below 50%). Despite the poor long-term response, the authors concluded that PDT is particularly useful in transplant recipients because of the possibility for repeated treatment of large lesional areas (although subsequent responsiveness was not confirmed).

Successful use of PDT has also been reported in two cases of bowenoid papulosis using ALA–PDT with a diode red light source.

### 4.6.10 Radiotherapy (Strength of recommendation overall B, Quality of evidence II–iii for most sites; Strength of recommendation D, Quality of evidence II–iii for lower leg)

Various radiotherapy techniques and regimens have been used to treat BD. The larger studies have suggested a complete response rate to X-irradiation of 100%, for example in 77 lesions treated by Blank and Schnyder\(^60\) (in this study, two patients with genital lesions relapsed at 8 and 16 months) and in 59 patients treated by Cox and Dyson\(^43\).

The patients in the latter series all had lower leg lesions; poor healing, related to age, diameter of field and radiotherapy dose, was a feature in 12 of 59 (20%) of cases.

Poor healing of lower legs was supported by a more recent but smaller retrospective series of 11 patients with 16 lower leg lesions in which 100% cure was obtained but with 25% failure to heal (median follow up 27Æ5 months, minimum 9 months), even though the fraction sizes used were relatively low.\(^61\) Thus the high cure rate of radiotherapy may be offset by impaired healing on the lower leg, and it is best avoided for BD at this site (Strength of recommendation D, Quality of evidence II–iii).

To overcome some of the disadvantages of external beam X-irradiation, a skin patch coated with high-energy \(\beta\)-emitter holmium–166 (166Ho patch) was used to treat 29 biopsy–
confirmed BD lesions in eight patients [one with 22 sites, one with three sites but only one (palmar) treated with this method, the others solitary].62

All lesions were 3 cm or larger (up to 7Æ2 cm); most lesions were on buttocks or thighs, or were acral in the patient with multiple lesions (no lower leg lesions were specifically identified in the report).

The patches were applied to the surface of lesions for 30–60 min for a total radiation dose of 35 Gy. Acute radiation reactions healed within a month with mild fibrosis; there were good functional and cosmetic results with confirmed histological clearance at 5 months and without any late (10 months–2 years) recurrences or complications. This treatment may therefore be useful, at least at non–lower leg sites (Strength of recommendation B, Quality of evidence II–ii).

Radiotherapy has been advocated as the treatment of choice for anal margin epidermoid cancers, although without any strong evidence to support this viewpoint.47

4.611 Laser (Strength of recommendation overall B, Quality of evidence II–iii but may vary according to site)

Lasers have mainly been used to treat lesions at difficult sites such as the finger or genitalia. Results are generally stated to be good (Strength of recommendation B, Quality of evidence II–iii), but most published results are based on small numbers, or are considered with other epidermal neoplasia and are difficult to analyse. One retrospective review included six cases of digital BD treated with CO2 laser, and reported good cosmetic results, no functional deficit and no recurrences (follow up 0Æ5– 7Æ7 years),63 although some failures for digital BD are reported by others (one of five cases).64

A study of 16 patients with 25 lower leg BD lesions treated with CO2 laser demonstrated 100% healing at 2 months and no recurrences at 6 months. However, there was a 12% progression to invasive carcinoma within 12 months of discharge from follow up. This suggests that the depth of laser eradication may have been inadequate, and there are currently some reservations about use of this modality at this site (Strength of recommendation C, Quality of evidence II–iii).65

Results for perianal BD are poor48 (Strength of recommendation D, Quality of evidence II–iii). CO2 laser has been recommended for erythroplasia of Queyrat (Strength of recommendation B, Quality of evidence II–iii) but there is inadequate evidence to comment on other sites (Quality of evidence IV).

4.612 Other treatments

An ultrasonic surgical aspirator was used initially in an animal model (grafted areas of BD onto immunodeficient mice) and subsequently for 20 human lesions of BD where surgery had been considered inappropriate.66. The rationale is that the aspirator removes epidermis but not dermis. It has a 2–mm diameter probe, and up to 300 lm oscillation at 28 kHz.
An area of about 1 cm of normal skin was included in the treatment field, treatment taking 5–10 min under local anaesthesia. Follow up was monthly for 12 months, 3–monthly thereafter, for 12–26 (mean 20) months with no recurrences. Large lesions, lower leg lesions and lesions over joints were included.

Hyperthermic treatment was performed using disposable chemical pocket warmers applied under pressure each day throughout the patient’s waking hours for 4–5 months. There was initial complete clinical remission in six of eight patients (and partial remission in one) but absence of residual histological evidence of BD was achieved only in three of eight. Although of some benefit, this response compares poorly with other standard therapies (Strength of recommendation E, Quality of evidence IV).

Acitretin has been used alone or in conjunction with 5–FU in anecdotal cases but the relative merits of each are unclear in the combination approach. The same applies to combinations of topical bleomycin with LN2 cryotherapy in a case of digital BD and isotretinoin with interferon–a in a patient with multiple lesions.

4.6.13 Summary of treatment modalities
All of the above treatments have some advantages and disadvantages, which are dictated by lesional factors (size, number, site, potential for healing or functional impairment), general health issues, availability and costs (both of the equipment or agent, and of the time to deliver the treatment or its aftercare). A cost–minimization analysis showed that, at the time, curettage or excision were the cheapest options, and PDT the most expensive (other treatments considered in this study were cryotherapy, 5–FU and laser). However, changing costs of PDT and laser, the likely use of (relatively expensive) imiquimod in the future, and the fact that all of these therapies may not have equivalent efficacy, means that it is difficult to make a strong and currently applicable single recommendation on the basis of this study.

The relative status of the available treatment options is summarized in Table 1. This takes into account the evidence for benefit, ease of application and time required for the technique, wound healing, cosmetic result and availability of the method or facilities required.

4.7 Follow up
See section on Post Treatment Follow Up, Chapter 9.

4.8 Summary of the Main Management Recommendations

1. Routine investigation for internal malignancy in patients with BD is not justified (Strength of recommendation E, Quality of evidence I).
2. The risk of progression to invasive cancer is about 3%. This risk is greater in genital BD, and particularly in perianal BD. A high risk of recurrence, including late recurrence, is a particular feature of perianal BD and prolonged follow up is recommended for this variant (Strength of recommendation A, Quality of evidence II–ii).

3. There is reasonable evidence to support use of 5–FU (Strength of recommendation B, Quality of evidence II–i) but its use may be limited by irritancy and it was less effective than PDT in an RCT.

4. It is more practical than surgery for large lesions, especially at potentially poor healing sites, and has been used for ‘control’ rather than cure in some patients with multiple lesions.

5. Topical imiquimod is likely to be used for BD (Strength of recommendation B, Quality of evidence I), especially for larger lesions or difficult/poor healing sites. However, it is costly, currently unlicensed for this indication, and the optimum regimen has yet to be determined.

6. Topical PDT has been shown to be equivalent or superior to cryotherapy and 5–FU, either in efficacy and/or in healing, in RCTs (Strength of recommendation A, Quality of evidence I). It may be of particular benefit for lesions that are large, on the lower leg or at otherwise difficult sites, but it is costly. PDT for NMSC and premalignant skin lesions has now been approved as an interventional procedure by the National Institute for Health and Clinical Excellence in the U.K., 69 and MAL–PDT has been approved by the European Medicines Authority for treatment of BD.

7. Curettage has good evidence of efficacy, and time to healing is faster than with cryotherapy (Strength of recommendation A, Quality of evidence II–ii).

8. Cryotherapy has good evidence of efficacy (Strength of recommendation B, Quality of evidence II–i), but discomfort and time to healing are inferior to PDT (Strength of recommendation A, Quality of evidence I) or curettage (Strength of recommendation A, Quality of evidence II–ii).

9. Excision should be an effective treatment with low recurrence rates, but the evidence base is limited and for the most part does not allow comment on specific sites of lesions (Strength of recommendation overall A, Quality of evidence II–iii). Lower leg excision may be limited by lack of skin mobility. For perianal BD treated surgically, wide excision is recommended rather than narrow excision or laser treatment (Strength of recommendation A, Quality of evidence II–iii). Micrographic surgery is logical at sites such as digits or penis where it is important to limit removal of
unaffected skin (Strength of recommendation B, Quality of evidence III) and is useful for poorly defined or recurrent head and neck BD (Strength of recommendation B, Quality of evidence II–iii).

10. Radiotherapy has good evidence of efficacy but poor healing on the lower leg suggests that it should be avoided at this site (Strength of recommendation generally B, Quality of evidence II–iii; for lower leg lesions Strength of recommendation D, Quality of evidence IIIii).

11. There is limited evidence on laser treatment, suggesting that it is a reasonable option for digital or genital lesions (Strength of recommendation B, Quality of evidence II–iii) but probably not for other sites (Strength of recommendation mostly C or D, Quality of evidence II–iii to IV); specifically, results for perianal BD are worse than those using wide surgical excision.

All therapeutic options have failure and recurrence rates at least in the order of 5–10%, and no treatment modality appears to be superior for all clinical situations. Direct comparison between treatment modalities is difficult as there are few randomized clinical trials with comparable patient subgroups. There is now increased choice for patients between clinic-based and home-applied therapies.

For individual patients, factors such as treatment-related morbidity and the ease and availability of the treatment options may be a greater issue than the cure rate. As previously, we still feel that it is important that our BAD therapeutic guidelines reflect the fact that there is no single definite ‘right way’ to treat all patients with BD.

4.9 Summary of Appropriate Treatment for Different Lesional Types, Sizes and Situations
See Table 1.

Appendix 1 Strength of recommendations and quality of evidence (a)
(This is used for all BAD guidelines included in this document)

Strength of recommendations
A There is good evidence to support the use of the procedure
B There is fair evidence to support the use of the procedure
C There is poor evidence to support the use of the procedure
D There is fair evidence to support the rejection of the use of the procedure
E There is good evidence to support the rejection of the use of the procedure
Quality of evidence

I Evidence obtained from at least one properly designed, randomized controlled trial
II–i Evidence obtained from well–designed controlled trials without randomization
II–ii Evidence obtained from well–designed cohort or case–control analytical studies, preferably from more than one centre or research group
II–iii Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence
III Opinions of respected authorities based on clinical experience, descriptive studies or reports of expert committees
IV Evidence inadequate owing to problems of methodology (e.g. sample size, or length of comprehensiveness of follow up, or conflicts in evidence)

A different system of evidence grading and recommendations has been adopted for new guidelines, but the Therapy Guidelines and Audit Committee has recommended use of the original grading system in this guideline update.

References

(For full references see the full guidelines on the BAD website – link below)
For Full BAD Guideline for Bowens disease see their website guidelines page. Scroll down to Bowens disease. (Press control and click on the link below)

http://www.bad.org.uk//site/622/default.aspx
5. Guidelines for the management of Basal Cell Carcinoma; British Association of Dermatologists 2008

The importance of basal cell carcinoma (BCC) is underestimated, probably because it is rarely fatal. However, BCC is the commonest type of cancer in England and Wales. Patients want their low-risk BCCs to be treated effectively the first time, with minimal risk of recurrence and the best cosmetic result possible. Should surgery be required, patients want their healthcare professionals to ensure that the risk of damaging important, proximate anatomical features, such as nerves, is kept to a minimum if possible.

5.1 Summary

This section represents a planned regular updating of the previous British Association of Dermatologists guidelines for the management of basal cell carcinoma. These guidelines present evidence–based guidance for treatment, with identification of the strength of evidence available at the time of preparation of the guidelines, and a brief overview of epidemiological aspects, diagnosis and investigation.

5.2 Definition

BCC is a slow–growing, locally invasive malignant epidermal skin tumour predominantly affecting caucasians. The tumour infiltrates tissues in a three–dimensional fashion through the irregular growth of subclinical finger–like outgrowths which remain contiguous with the main tumour mass. Metastasis is extremely rare and morbidity results from local tissue invasion and destruction particularly on the face, head and neck.

Clinical appearances and morphology are diverse, and include nodular, cystic, superficial, morphoeic (sclerosing), keratotic and pigmented variants. Common histological subtypes include nodular (nBCC), superficial (sBCC) and pigmented forms in addition to morphoeic, micronodular, infiltrative and basosquamous variants which are particularly associated with aggressive tissue invasion and destruction. Perivascular or perineural invasion are features associated with the most aggressive tumours.

5.3 Incidence and Aetiology

BCC is the most common cancer in Europe, Australia and the U.S.A., and is showing a worldwide increase in incidence. Inconsistent data collection unfortunately means that accurate figures for the incidence of BCC in the U.K. are difficult to obtain. The age shift
in the population has been accompanied by an increase in the total number of skin cancers, and a continued rise in tumour incidence in the U.K. has been predicted up to the year 2040.12

The most significant aetiological factors appear to be genetic predisposition and exposure to ultraviolet radiation.13 The sun-exposed areas of the head and neck are the most commonly involved sites.14,15 Sun exposure in childhood may be especially important.16 Increasing age, male sex, fair skin types I and II, immunosuppression and arsenic exposure are other recognized risk factors17 and a high dietary fat intake may be relevant.18 Multiple BCCs are a feature of basal cell naevus (Gorlin’s) syndrome (BCNS).19 Following development of a BCC, patients are at significantly increased risk of developing subsequent BCCs at other sites.

5.4 Diagnosis and Investigation

Dermatologists can make a confident clinical diagnosis of BCC in most cases. Diagnostic accuracy is enhanced by good lighting and magnification and the dermatoscope may be helpful in some cases.20 Biopsy is indicated when clinical doubt exists or when patients are being referred for a subspecialty opinion, when the histological subtype of BCC may influence treatment selection and prognosis8 (Table 1).

The use of exfoliative cytology has been described.21 Imaging techniques such as computed tomography or magnetic resonance imaging scanning are indicated in cases where bony involvement is suspected or where the tumour may have invaded major nerves, the orbit23,24 or the parotid gland.25

Other techniques, such as ultrasound, spectroscopy and terahertz scanning, are of academic interest but currently have little or no proven clinical role.

Table 1 Factors influencing prognosis of basal cell carcinoma

- Tumour size (increasing size confers higher risk of recurrence)
- Tumour site (lesions on the central face, especially around the eyes, nose, lips and ears, are at higher risk of recurrence)
- Definition of clinical margins (poorly defined lesions are at higher risk of recurrence)
- Histological subtype (certain subtypes confer higher risk of recurrence)
- Histological features of aggression (perineural and/or perivascular involvement confers higher risk of recurrence)
- Failure of previous treatment (recurrent lesions are at higher risk of further recurrence)
- Immunosuppression (possibly confers increased risk of recurrence)
5.41 “Low-risk’ and ‘high-risk’ tumours, patient factors and treatment selection

The likelihood of curing an individual BCC strongly correlates with a number of definable prognostic factors (Table 1). These factors 26, 27 should strongly influence both treatment selection and the prognostic advice given to patients. The presence or absence of these prognostic factors allows clinicians to assign individual lesions as being at low or high risk of recurrence following treatment. The recent development of more effective topical and nonsurgical therapies has increased the treatment options for many low-risk lesions, although surgery and radiotherapy (RT) remain the treatments of choice for the majority of high-risk lesions.28

Patient-specific factors which may influence the choice of treatment include general fitness, coexisting serious medical conditions, and the use of antiplatelet or anticoagulant medication. A conservative approach to asymptomatic, low-risk lesions will prevent treatment causing more problems than the lesion itself. Even when dealing with high-risk BCC aggressive management may be inappropriate for certain patients, especially the very elderly or those in poor general health, when a palliative rather than a curative treatment regimen may be in the best interests of the patient.

Finally, factors including patient choice, local availability of specialized services, together with the experience and preferences of the specialist involved may influence treatment selection.

5.5 Management

A wide range of different treatments has been described for the management of BCC, 29 and both the British Association of Dermatologists (BAD) 30 and the American Academy of Dermatology 31 have published professional guidelines on their appropriate use. Usually the aim of treatment is to eradicate the tumour in a manner likely to result in a cosmetic outcome that will be acceptable to the patient. Some techniques [e.g. cryosurgery, curettage, RT, photodynamic therapy (PDT)] do not allow histological confirmation of tumour clearance.

These techniques are generally used to treat low-risk tumours, although RT also has an important role in the management of high-risk BCC. Surgical excision with either intraoperative or postoperative histological assessment of the surgical margins is widely used to treat both low- and high-risk BCC, and is generally considered to have the lowest overall failure rate in BCC treatment.28 In rare advanced cases, where tumour has invaded facial bones or sinuses, major multidisciplinary craniofacial surgery may be necessary.32 There are few randomized controlled studies comparing different skin cancer treatments, and much of the published literature on the treatment of BCC consists of open studies, some with low patient numbers and relatively short follow-up periods.33
Broadly, the available treatments for BCC can be divided into surgical and non-surgical techniques, with surgical techniques subdivided into two categories: excision and destruction.

### 5.6 Surgical techniques

#### 5.61 Excision with predetermined margins

The tumour is excised together with a variable margin of clinically normal surrounding tissue. The peripheral and deep surgical margins of the excised tissue can be examined histologically using intraoperative frozen sections or, more commonly, using postoperative vertical sections taken from formalin-fixed, paraffin-embedded tissue. This approach may be used with increasingly wide surgical margins for primary, incompletely excised and recurrent lesions.

#### 5.62 Primary basal cell carcinoma

Surgical excision is a highly effective treatment for primary BCC, with a recurrence rate of < 2% reported 5 years following histologically complete excision in two different series. The overall cosmetic results are generally good, particularly when excision and wound repair are performed by experienced practitioners. The use of curettage prior to excision of primary BCC may increase the cure rate by more accurately defining the true borders of the BCC. The size of the peripheral and deep surgical margins should correlate with the likelihood that subclinical tumour extensions exist (Table 1).

Although few data exist on the correct deep surgical margin, as this will depend upon the local anatomy, excision through subcutaneous fat is generally advisable. Studies using horizontal [Mohs micrographic surgery (MMS)] sections which can accurately detect BCC at any part of the surgical margin suggest that excision of small (< 20 mm) well-defined lesions with a 3-mm peripheral surgical margin will clear the tumour in 85% of cases. A 4–5-mm peripheral margin will increase the peripheral clearance rate to approximately 95%, indicating that approximately 5% of small, well-defined BCCs extend over 4 mm beyond their apparent clinical margins. Morphoeic and large BCCs require wider surgical margins in order to maximize the chance of complete histological resection.

For primary morphoeic lesions, the rate of complete excision with increasing peripheral surgical margins is as follows:

- 3-mm margin, 66%; 5-mm margin, 82%; 13–15-mm margin, > 95%.

Standard vertical section processing of excision specimens allows the pathologist only to examine representative areas of the peripheral and deep surgical margins, and it has been estimated that at best 44% of the entire margin can be examined in this fashion, which may partly explain why tumours which appeared to have been fully excised do occasionally recur.
Evidence level: Surgical excision is a good treatment for primary BCC. (Strength of recommendation A, quality of evidence I – see Appendix 1 of the BAD guidelines).

5.63 Incompletely excised basal cell carcinoma

Incomplete excision, where one or more surgical margins are involved with (or extremely close to) tumour, has been reported in 4Æ7%43 and 7%44 of cases reported from British plastic surgical units and 6Æ3%,45,46 in two retrospective studies from Australia. This usually reflects the unpredictable extent of subclinical tumour spread beyond the apparent clinical margins. However, other relevant factors associated with incomplete excision include operator experience, the anatomical site and histological subtype of the tumour43 and the excision of multiple tumours during one procedure.47.

When the surgical margins are examined intraoperatively (excision under frozen section control, MMS), further resection of any involved margins can take place prior to wound repair. Using standard surgery, one approach to minimize the risk of incomplete excision is to excise tumours and delay wound repair until an urgent pathology report is received. In the more common situation, when surgical margins are examined routinely postoperatively, the wound has usually been repaired and the only options are further treatment or prolonged follow up to monitor for tumour recurrence.48 Various prospective and retrospective reviews of incompletely excised BCC suggest that not all tumours will recur. Studies using approximately 2–5 years of follow up have reported recurrence rates following histologically incomplete excision of 30%,46 38%,49 39%50 and 41%.51

In a follow-up study of 140 incompletely excised BCCs 21% of lesions recurred; however, as 31% of the cohort died of other causes during the (minimum 5-year) follow-up period this figure could have been significantly higher.47 Re-excision of incompletely excised lesions revealed the presence of residual tumour in 45%47 and 54%44 of cases when the tissue was examined using standard (vertical) tissue sectioning and in 55% of cases re-excised using MMS.52

The risk of recurrence seems highest in those lesions where both lateral and deep margins were involved with BCC and when the incomplete excision was performed to remove recurrent BCCs, especially those recurrent following radiation therapy.49 BCCs incompletely excised at the deep margin were considered especially difficult to cure with re-excision.49 One study calculated the probability of recurrence of incompletely excised BCC and found that it varied according to which margins were involved. When only the lateral margins were involved there was a 17% risk of recurrence, rising to a 33% risk of recurrence if the deep margins were involved.53.

There is good evidence to support a policy of re-treatment of incompletely excised lesions 44, 49, 51,52,54–56 especially when they involve critical mid facial sites, where the deep surgical margin is involved, the surgical defect has been repaired using skin flaps or skin grafts 49,57 and where histology shows an aggressive histological subtype.
It has been suggested that some incompletely excised lesions may demonstrate a more aggressive histological subtype when the lesion recurs, especially on the central face. If the decision is made to re-treat rather than observe, re-excision (with or without frozen section control) or MMS are the treatments of choice (Table 2). Although there are limited data on the subject, RT appears to have a role in preventing the recurrence of incompletely excised BCC.

Evidence level: Tumours which have been incompletely excised, especially (i) high-risk lesions; and (ii) lesions incompletely excised at the deep margin, are at high risk of recurrence. (Strength of recommendation A, quality of evidence II–i).

<table>
<thead>
<tr>
<th>Table 2 Indications for Mohs micrographic surgery</th>
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<tbody>
<tr>
<td>Tumour site (especially central face, around the eyes, nose, lips and ears)</td>
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<tr>
<td>Tumour size (any size, but especially &gt; 2 cm)</td>
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<tr>
<td>Histological subtype (especially morphoeic, infiltrative, micronodular and basosquamous subtypes)</td>
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<tr>
<td>Poor clinical definition of tumour margins</td>
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<tr>
<td>Recurrent lesions</td>
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<td>Perineural or perivascular involvement</td>
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5.64 Recurrent basal cell carcinoma

Recurrent BCC is more difficult to cure than primary disease – the results of all published series on the surgical excision of BCC show cure rates following treatment of recurrent disease that are inferior to those for primary lesions. Recurrent lesions generally require wider peripheral surgical margins than primary lesions with or without standard (non-Mohs) frozen section control. Peripheral excision margins for recurrent BCC of 5–10 mm have been suggested.

Evidence level: Recurrent tumours, especially on the face, are at high risk of further recurrence following surgical excision even with wide surgical margins. (Strength of recommendation A, quality of evidence II–ii).

5.65 Mohs micrographic surgery

This specialized surgical procedure was pioneered (as chemosurgery) by Frederic Mohs in the 1940s and later refined into the modern technique of MMS. MMS combines staged resection with comprehensive surgical margin examination and results in extremely high
cure rates for even the most high risk lesions together with maximal preservation of normal tissues.\textsuperscript{62,63}

The technique, which is generally reserved for high-risk facial lesions, is based upon the principle that all traces of infiltrating BCC must be identified and excised in order to achieve complete cure.\textsuperscript{64,65} The indications for using MMS are summarized in Table 2.

A review of studies published since the mid-1940s suggested an overall 5-year cure rate of 99\% following MMS for primary BCC\textsuperscript{66} and 94Æ4\% for recurrent disease.\textsuperscript{59} Two prospective studies have been reported from Australia: in one, 5-year cure rates of 100\% and 92Æ2\% for primary and recurrent tumours, respectively, were reported in 819 patients with periocular BCC;\textsuperscript{67} in the other, 3370 BCCs on the head and neck treated with MMS resulted in 5-year cure rates of 98Æ6\% for primary BCC and 96\% for recurrent disease.\textsuperscript{68} A retrospective review of 620 patients with 720 lesions gave estimated 5-year cure rates of 98Æ8\% for primary BCC and 93Æ3\% for recurrent disease.\textsuperscript{69} Five-year cure rates of 93Æ5\% for primary BCC and 90\% for recurrent disease have been reported.\textsuperscript{64}

MMS for BCC performed under local anaesthesia in an outpatient or day-case setting has a good safety record \textsuperscript{70,71} and Mohs surgical defects can be repaired by the Mohs surgeon or by facial reconstructive specialists including plastic, \textsuperscript{72} otolaryngeal \textsuperscript{73} and oculoplastic \textsuperscript{74,75} surgeons. The technique is performed using either frozen tissue sections, \textsuperscript{76} when resection can take place over a matter of hours, or with formalin–fixed, paraffin–embedded tissues, when the procedure takes place over a number of days.\textsuperscript{77,78}

Variations of the technique, based upon different techniques of pathological processing of tissue excised in a standard fashion, have been described.\textsuperscript{79–82} Both maxillofacial \textsuperscript{83} and ophthalmic \textsuperscript{84,85} surgeons have reported good results with staged excision of high-risk BCC using standard vertical (non–Mohs) permanent sections and delayed wound repair, as an alternative to MMS which one group felt was too ‘labour-intensive’.\textsuperscript{84} Several studies have looked at the comparative cost of MMS,\textsuperscript{86–89} which (to produce tumour-free margins) has a similar cost to traditional excision\textsuperscript{87} but is less expensive than excision using intraoperative frozen section control.\textsuperscript{86}

A study from the Netherlands found MMS to be more expensive than traditional surgery; however, as MMS is likely to produce extremely high cure rates, it remains cost–effective. The only study to date which tried to compare cure rates following standard excision and MMS\textsuperscript{89} appeared to show little difference between the two treatment modalities. However, a failure to adhere to the study design (with 24 of 301 patients randomized to have standard surgical excision being moved into the MMS treatment group) raises concerns about the conclusions of this study.\textsuperscript{90}

Evidence levels: Mohs micrographic surgery is a good treatment for high-risk primary BCC. (Strength of recommendation A, quality of evidence I).
Mohs micrographic surgery is a good treatment for high-risk recurrent BCC. (Strength of recommendation A, quality of evidence I).

5.66 Destructive techniques: surgical
Destructive surgical and non surgical techniques are best used for low-risk disease. Unless a confident clinical diagnosis and assessment has been made, a preoperative biopsy is indicated to confirm the diagnosis and to determine the histological subtype. This advice is especially important for facial lesions.

5.67 Curettage and Cautery
Curettage and cautery (C&C, also known as electrodesiccation and curettage) 91–93 and curettage alone 91, 94, 95 are traditional methods of BCC removal. Successful outcomes rely heavily on careful selection of appropriate lesions (ideally small nodular or superficial) 94, 96 as well as the skill and experience of the operator. 96, 97 In a survey of 166 U.K. consultant dermatologists in 1995, 24% of 1597 lesions presenting for the first time were treated by C&C, making it the second most common form of treatment after surgical excision (58%). 98 Variations in technique include the use of different types of curette and the number of cycles of treatment; 93 however, the exact protocol is often unclear in published studies. Curettage and cautery is generally suitable for the treatment of low-risk lesions. 94, 96, 97, 99 Curettage and cautery of high risk facial lesions is associated with a high risk of tumour recurrence 97, 100, 101 and is generally contraindicated.

In a study of 69 C&C wounds that were immediately re-excised using MMS, residual tumour was found in 33% of cases overall, with striking differences seen in different body sites (47% of head and neck sites and 8Æ3% of trunk and limb sites contained residual BCC). 102 This may be one reason why C&C is generally less successful in the treatment of facial lesions. The relatively high incidence of residual BCC but an apparently low incidence of recurrence following C&C has led to suggestions that unidentified wound healing processes following C&C may play a part in tumour destruction, although at least two studies have failed to confirm this theory. 103, 104

Tumour debulking by curettage has been combined with various treatment modalities such as imiquimod (IMQ) 105, 106 and PDT 107 in attempts to increase efficacy. Curettage has also been combined with cryosurgery – a 5-year follow-up study of 70 noninfiltrative auricular BCCs (not involving the external auditory meatus) treated in this way resulted in one recurrence. 108

A literature review of all studies published since 1947 suggested an overall 5-year cure rate of 92Æ3% following C&C for selected primary BCC. 66 Curettage is much less useful for recurrent BCC and a similar review suggested an overall 5-year cure rate of 60%. 59
Evidence levels: Curettage and cautery is a good treatment for low-risk BCC. (Strength of recommendation A, quality of evidence II–iii).

_Curettage and cautery is a poor treatment for high-risk BCC. (Strength of recommendation D, quality of evidence II–iii)._ 

_Curettage and cautery is a poor treatment for recurrent BCC. (Strength of recommendation D, quality of evidence II–ii)._ 

5.68 Cryosurgery

Liquid nitrogen cryosurgery for the destruction of BCC uses the effects of extreme cold (tissue temperatures of) 50 to 60 °C to effect deep destruction of the tumour and surrounding tissues. Individual treatment techniques vary considerably, with both open and closed spray techniques and single or multiple cycles of freezing (freeze-thaw cycles)109, 110. Double freeze-thaw cycles are generally recommended for the treatment of facial BCC, although superficial truncal lesions may require only a single treatment cycle.111. One report describes the use of ‘fractional cryosurgery’ where large lesions are treated on multiple separate occasions.112.

The success of cryosurgery relies upon careful selection of appropriate lesions113 and the experience of the operator.

In one study 12 small non facial nBCCs were treated with single freeze-thaw cryosurgery to a monitored temperature of between 50 and 60 °C. When each treatment site was subsequently excised and examined with horizontal step sections, no residual tumour was detected.114 Cryosurgery is most useful in the treatment of low-risk BCC.115, 116 Five-year cure rates of 99% have been reported by the same author in both 1991117 and 2004.118

In expert hands, cryosurgery also has a role in the management of high-risk lesions, either as the sole treatment118 or following curettage.108, 119 A follow-up study of 171 high-risk BCCs treated with combined curettage-cryotherapy reported a 8% recurrence rate after a mean follow up of 5±2 years (range 6 months–9±1 years).119 Although cryosurgery is less useful for the treatment of recurrent BCC,59 selected lesions may also respond to aggressive expert treatment.120

Some authors consider cryosurgery to be an appropriate treatment for selected periocular BCC 121–124 and one series of 158 periocular BCCs treated with double-cycle cryosurgery reported a 8% recurrence rate after a mean 5-year follow-up period. Careful lesion selection was crucial, as factors associated with recurrence included large size, morphoeic histology and involvement of the lid margin.123 Other than tumour recurrence, adverse results of cryosurgery to eyelid and periocular BCC include conjunctival hypertrophy and ectropion which may require corrective surgery.123 Cryosurgery (double 25–30- s treatment cycles) has been compared with 5-aminolaevulinic acid (ALA)–PDT in the treatment of low-risk BCC.125
Histologically verified recurrence rates in the two groups were statistically comparable: 25% (11 of 44) for PDT and 15% (six of 39) for cryosurgery. Additional treatments had to be performed in 30% of the lesions in the PDT group although the healing time was shorter and the cosmetic outcome better with PDT.

Pain and discomfort during and after treatment were the same. Additional studies using methylaminolaevulinic acid (MAL)–PDT with longer follow-up periods and including comparison with surgical excision are detailed in the later section on PDT.

Cryosurgery wounds generally heal with minimal tissue contraction, resulting in good cosmetic results; however, one study comparing the cosmetic results (but not efficacy) of cryosurgery with excisional surgery for head and neck found that excision generally gave superior cosmetic results.

Evidence level: Cryosurgery is a good treatment for low–risk BCC. (Strength of recommendation A, quality of evidence II–ii).

5.69 Carbon dioxide laser
Carbon dioxide (CO2) laser ablation remains an uncommon form of treatment and there are few published data. When combined with curettage, CO2 laser surgery may be useful in the treatment of large or multiple low–risk sBCCs. In one small series, the Ultrapulse CO2 laser appeared effective in treating small BCCs in low–risk areas with minimal post–treatment scarring in three patients with BCNS.

Evidence level: Carbon dioxide laser ablation may be effective in the treatment of low–risk BCC. (Strength of recommendation C, quality of evidence III).

5.7 Destructive Techniques: Non Surgical

5.71 Topical immunotherapy with imiquimod
IMQ is an immune–response modifier which acts through tolllike receptors, predominantly expressed on dendritic cells and monocytes, to induce production of cytokines and chemokines which promote both innate and adaptive cell–mediated immune responses. Several studies have reported the efficacy of topical 5% IMQ cream in the treatment of sBCC and dose–response studies indicate that the highest response rates are associated with more frequent or prolonged dosing, together with a significant inflammatory reaction.

Pooled results from two randomized vehicle–controlled studies of 5% IMQ cream in the treatment of small sBCC in 724 patients have been reported. Twelve weeks following a 6–week treatment period the histological clearance rates were 82% (application five times weekly, 5x/week), 79% (application seven times weekly, 7x/week) and 3% (vehicle only).
An increasing severity of local inflammatory reactions was associated with higher clearance rates. Moderate to severe local site reactions occurred in 87%, including erosion (36%) and ulceration (22%) in subjects in the 5x/week groups, with higher figures for the 7x/week groups. Rest periods were requested by 10% and 22% of patients in the 5x/week and 7x/week groups, respectively, with resumption of treatment when the reaction had resolved. Eleven patients withdrew from the study due to adverse events.\textsuperscript{131}

A multicentre randomized study of the treatment of sBCC with 5% IMQ cream vs. vehicle alone in 84 patients reported similar results. Histological clearance rates following once-daily application for 6 weeks were 80% (IMQ) and 6% (vehicle).\textsuperscript{132}

Topical IMQ is approved by the European Medicines Agency for the treatment of small sBCC, using the 5x/week regimens for 6 weeks. This regimen balances therapeutic efficacy with patient tolerability of the common inflammatory reactions. Long-term data on clinical recurrence rates are limited. An on-going multicentre open-label study of 182 small sBCCs using the 5x/week regimens resulted in 10% of patients failing to respond at 12 weeks. The 90% who did respond then entered a 5-year follow-up phase. Interim results after 2 years of follow up reported an estimated recurrence rate of 20\%6\% in this group.\textsuperscript{133}

Data on the treatment of nBCC using IMQ are limited. Two randomized dose-response studies (reported in the same paper) each evaluated four dosing regimens over a 6 or 12 week application period. Six weeks following treatment the entire treated areas were excised.

Histologically confirmed complete response rates were highest in the groups receiving a once-daily dose, with clearance rates of 71% (25 of 35) and 76% (16 of 21) in the 6- and 12-week studies, respectively. Increasing response rates were associated with increasing frequency of dosing over all regimens, and there was a significant correlation between the most intense inflammatory reactions and complete response rate.\textsuperscript{134}

A further randomized trial reported complete clinical clearance in 78% of 90 evaluable patients with nBCC following thrice-weekly application of IMQ for 8 or 12 weeks (no difference in outcome between protocols). The treated areas were excised 8 weeks following treatment, and residual BCC was found in 36% of cases, including 12 of 90 (13%) patients considered to have shown complete clinical clearance.\textsuperscript{135}

There are currently limited published data on the long-term recurrence rates following IMQ treatment of nBCC. During 5-year follow up of 55 lesions in an open study of different types of BCC treated with IMQ, the long-term clearance rate for the intention-to-treat dataset was 100% (four of four) for sBCC, 75% (six of eight) for nBCC and 60% (26 of 43) for infiltrative BCC.\textsuperscript{136}
Two pilot studies investigated the combination of curettage of nBCC prior to the use of topical IMQ.\textsuperscript{105,106} In the first, following a single cycle of curettage, IMQ was applied daily for 6–10 weeks and this produced histological clearance of 94\% (32 of 34) when the treatment sites were excised 12 weeks after treatment.\textsuperscript{105} In the second study, 20 patients received three cycles of C&C followed by IMQ or vehicle once daily for 1 month. Histological examination revealed residual tumour in 10\% (one of 10) in the IMQ group and 40\% (four of 10) in the vehicle group.\textsuperscript{106}

Occlusion of the treatment site does not appear to be beneficial as no difference in efficacy was demonstrated when 5\% IMQ cream with and without occlusion was used to treat both sBCC and nBCC.\textsuperscript{137} Three separate studies of topical IMQ in a total of seven patients with BCNS have suggested clinical benefit in treating multiple sBCC and nBCC.\textsuperscript{138–140}

To date, there are no published randomized trials comparing topical IMQ with an existing standard therapy. One small study compared the efficacy and tolerability of topical IMQ (three times weekly for 3 weeks followed by a 1–week rest period, repeated for a total of 3 months) with MAL–PDT therapy (one cycle of two treatments). Histological clearance in the IMQ group was reported in six of eight (all sBCC) vs. 12 of 13 (sBCC and nBCC) in the PDT group 12 weeks after treatment. Cosmetic results in both groups were similar, although patients tolerated IMQ therapy less well.\textsuperscript{141}

On the basis of the currently available data, topical 5\% IMQ cream appears to have a role in treating small sBCC, although 5–year follow–up data are awaited. The role of IMQ in the treatment of nBCC remains unclear, as its use has been studied in only small numbers of patients and there are currently limited long–term follow–up data.

Evidence levels: Topical imiquimod appears effective in the treatment of primary small superficial BCC. (Strength of recommendation A, quality of evidence I). Topical imiquimod may possibly have a role in the treatment of primary nodular BCC. (Strength of recommendation C, quality of evidence I).

5.72 Photodynamic therapy

Previous BAD guidelines have rated topical PDT using ALA as suitable for the treatment of low–risk sBCC, but a relatively poor option for the treatment of high–risk lesions.\textsuperscript{30,142} ALA–PDT has been compared with cryosurgery in the treatment of both sBCC and nBCC.\textsuperscript{125} Clinical recurrence rates at 12 months of 5\% (PDT) and 13\% (cryotherapy) were underestimates, as histology demonstrated residual BCC in 25\% (PDT) and 15\% (cryotherapy) of cases, raising concerns both over clinical observation rather than histology as proof of tumour clearance and over the long–term efficacy of PDT.

Two further studies of double–cycle ALA–PDT treatment of sBCC reported initial clinical clearance rates of 95\% (60 of 62)\textsuperscript{143} and 90\% (76 of 87)\textsuperscript{144} with subsequent recurrence rates of 18\%\textsuperscript{143} and 4Æ8\%\textsuperscript{144} respectively, after 12 months of follow up.
Since the last BAD guidelines were published, 30 studies have increasingly reported the use of topical MAL, a more lipophilic methyl ester of ALA, which may demonstrate better tumour selectivity. There are currently limited data comparing these two agents, with no difference in tumour response (by histology) in one study of patients with nBCC receiving either ALA–PDT (n = 22) or MAL–PDT (n = 21) using identical regimens including surgical debulking of half of the tumours in each group prior to treatment. MAL–PDT is currently the only licensed form of topical PDT for the treatment of BCC.

The use of MAL–PDT has been compared with both cryotherapy and surgery in the treatment of BCC. Clinical clearance at 3 months of 97% of 102 sBCCs treated by MAL–PDT compared with 95% of 98 lesions treated with cryotherapy in a randomized multicentre study was described in a review article. The cosmetic outcome was superior following PDT, with a good or excellent outcome reported in 89% (PDT) and 50% (cryotherapy). During 48 months of follow up, recurrence rates of 22% (PDT) and 19% (cryotherapy) were reported. In another study previously mentioned in the curettage section, 91% of 131 sBCCs cleared following MAL–PDT, with 9% of these recurring during 35 months of follow up. The same study also treated nBCCs with MAL–PDT (following curette debulk), with initial clearance of 89% of 168 lesions. Subsequently, 12 thick and six thin tumours (14% and 7%, respectively) recurred during 35 months of follow up.

MAL–PDT (following nonpainful superficial curette or scalpel surface preparation) has been compared with surgical excision (> 5 mm margin) in the treatment of 105 nonfacial nBCCs in a multicentre randomized study. Clearance rates at 3 months were 91% (PDT) and 98% (surgery), and cosmetic outcome rated as good/excellent in 83% (PDT) and 33% (surgery). The same researchers reported long-term (60 months) recurrence rates of 14% (PDT) and 4% (surgery).

A multicentre study of patients considered to be at high risk of complications, poor cosmesis, disfigurement and/or recurrence reported histologically confirmed initial (3 months) clearance rates following MAL–PDT treatment of 85% (40 of 47) for sBCCs and 75% (38 of 51) for nBCCs, with long-term (24 months) recurrence rates of 22% and 18%, respectively.

In a similar multicentre study, sBCCs and nBCCs regarded by the authors as ‘difficult-to-treat’ (defined as large and/or central facial lesions, or patients at increased risk of surgical complications) received MAL–PDT treatment. Histologically confirmed clearance rates at 3 months were 93% (sBCC) and 82% (nBCC). The authors used a time-to-event approach to estimate sustained lesion clearance rates of 82% (sBCC) and 67% (nBCC) at 24 months. This data suggest that MAL–PDT may be an option for high-risk disease when other more effective treatments are either contraindicated or unacceptable to patients.

Some patients with BCNS responded to PDT using either red (~630 nm) or blue (~417 nm) light sources, but experience is limited to case reports. To date, there is no good evidence to support the use of PDT for infiltrative or recurrent BCC. Topical PDT can be a
time-consuming procedure, especially if performed on multiple occasions. Pain during the illumination phase is significant for some patients and ranges from a stinging or burning sensation to occasionally severe discomfort. A number of measures can reduce this pain, including the use of fans, directed cool air, simple analgesia or local anaesthesia. Following PDT the area tends to swell and then form a crust which takes a few weeks to separate.\textsuperscript{153}

Evidence levels: Photodynamic therapy is a good treatment for primary superficial BCC. (Strength of recommendation A, quality of evidence I). Photodynamic therapy is a reasonable treatment for primary low-risk nodular BCC. (Strength of recommendation B, quality of evidence I).

5.73 Radiotherapy
RT is effective in the treatment of primary BCC,\textsuperscript{154–158} surgically recurrent BCC,\textsuperscript{159} as adjuvant therapy, and is probably the treatment of choice for high-risk disease in patients who are unwilling or unable to tolerate surgery.\textsuperscript{159,160} RT is a complex mix of different techniques including superficial RT (generated at up to 170 kV) which is suitable for lesions up to ~6 mm in depth, electron beam therapy (generated at higher energies) which penetrates deeper tissues, and Brachytherapy which is useful for lesions arising on curved surfaces.

Due to the expensive nature of the equipment involved, RT is usually available only at major hospital centres. RT can be used in an adjuvant role, for example following incomplete excision of high-risk BCC. Poor long-term cosmetic results which were once a significant problem are much less likely following treatment using modern techniques. Fractionated treatment regimens (which repeatedly exploit the difference in radiosensitivity between malignant and normal tissues) generally produce superior cosmetic outcomes compared with single-fraction treatment, although this obviously requires multiple hospital visits. In the elderly, infirm patient, singlefraction regimens are still used, as the long-term cosmetic result of treatment is less of a concern.

All RT treatments are a careful compromise between the likelihood of tumour destruction and an acceptable risk of radionecrosis (a 5% level being generally accepted as a maximum and most clinical oncologists aiming for a much lower level). Different anatomical areas have different RT tolerances, with the head and neck generally tolerating RT well. However, certain areas such as the upper eyelid can be difficult to treat. The bridge of the nose, where thin skin overlies bone and is often subjected to repeated minor trauma from spectacles, is an area historically associated with a particularly high risk of radionecrosis. However, RT can be used successfully on many facial sites and studies have reported good outcomes following treatment of BCC on the nose,\textsuperscript{155,158,159,161} lip,\textsuperscript{162} ear\textsuperscript{155,163} and periorbital\textsuperscript{155,164} skin.
Unfortunately, some studies of RT for facial BCC report treatment of all nonmelanoma cancers (BCC, squamous cell carcinoma and basosquamous cancer), and do not clearly differentiate tumour-specific outcomes. However, in all these studies, BCC was generally the single largest tumour group and consequently some of these studies are referenced in these guidelines.

Review articles have reported overall 5-year cure rates following RT of 91.3%66 for primary BCC and 90.2%59 for recurrent disease. Other studies suggest long-term (> 4 years) local control rates of 84%, 165 86%, 157 88%, 166 92.5%167 and 96%.158

Attempts have been made to compare RT with other treatment modalities. A randomized comparison trial of RT against cryotherapy (93 patients) resulted in 2-year cure rates of 96% and 61%, respectively.168

Surgical excision (91% with frozen section margin control) of 174 primary facial BCCs < 4 cm in diameter has been compared with RT (mix of interstitial brachytherapy, contact therapy and conventional RT) for 173 lesions.167 The 4-year recurrence rates were 0.7% (surgery) and 7.5% (RT).

Cosmetic outcome at 4 years was significantly superior following surgery (good cosmesis in 79%) compared with RT (good cosmesis in 40%), with altered pigmentation and telangiectasia in over 65% of RT patients, and radiodystrophy in 41%.169

RT is contraindicated in the re-treatment of BCC that has recurred following previous RT. RT may promote the growth of new BCC in patients with BCNS, and consequently should either be avoided or used with extreme caution in this patient group.170

Evidence levels: Radiotherapy is a good treatment for primary BCC. (Strength of recommendation A, quality of evidence I). Radiotherapy is a good treatment for recurrent (but not radiorecurrent) BCC. (Strength of recommendation A, quality of evidence I).

5.8 Follow Up

See section on Post Treatment Follow Up, Chapter 9.

5.9 Conclusions

Many treatments are known to be effective in the treatment of BCC, ranging from topical therapy (e.g. IMQ) and minimally invasive procedures (e.g. PDT), through destructive modalities (e.g. C&C, cryosurgery) to more specialized treatments such as RT, wide surgical excision and MMS.

An assessment of the relative risk of recurrence of an individual lesion will generally be a useful way of identifying the most appropriate treatment modalities. For example, low-risk disease is generally suitable for topical therapy, C&C, cryotherapy, simple excision and PDT, while high-risk BCC is generally better managed with wide surgical excision, RT and MMS.
An indication of the relative value of the various treatments modalities covered in these guidelines is summarized in Table 3 (primary BCCs) and Table 4 (recurrent BCCs). While heavily based upon the overall likelihood of cure, these recommendations also take into account practicality of use, side effects, cosmetic outcomes, and patient acceptability.

**Table 3** Primary basal cell carcinoma (BCC): influence of tumour type, size (large $\frac{1}{4} > 2$ cm) and site on the selection of treatment

<table>
<thead>
<tr>
<th>BCC type: histology, size and site</th>
<th>PDT</th>
<th>Topical imiquimod</th>
<th>Curettage and cautery</th>
<th>Radiation therapy</th>
<th>Cryosurgery</th>
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PDT, photodynamic therapy; ***, probable treatment of choice; **, generally good choice; *, generally fair choice? Reasonable, but not often needed; –, generally poor choice; X, probably should not be used.

**Table 4** Recurrent basal cell carcinoma (BCC): influence of tumour type, size (large $\frac{1}{4} > 2$ cm) and site on the selection treatment

<table>
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<tr>
<th>BCC type: histology, size and site</th>
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<th>Curettage and cautery</th>
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Disclaimer
These guidelines have been prepared for dermatologists on behalf of the British Association of Dermatologists and are based on the best data available at the time the report was prepared. Caution should be exercised when interpreting the data where there is a limited evidence base. The results of future studies may require alteration of the conclusions or recommendations in this report. It may be necessary to depart from the guidelines in the interests of specific patients and special circumstances. Just as adherence to guidelines may not constitute defence against a claim of negligence, so deviation from them should not necessarily be deemed negligent.

Appendix 1 Strength of recommendations and quality of evidence (a)
See Chapter 4 of these guidelines

References
(For full references see the full guidelines on the BAD website – link below)

For Full BAD Guideline for Basal Cell Carcinoma see their website guidelines page. Scroll down to Basal Cell Carcinoma. (Press control and click on the link below)

http://www.bad.org.uk//site/622/default.aspx
6. Squamous Cell Carcinoma (SCC)

Multi Professional Guidelines for the Management of the Patient with Primary Cutaneous Squamous Cell Carcinoma 2009

6.1 Summary

These guidelines for management of primary cutaneous squamous cell carcinoma present evidence based guidance for treatment, with identification of the strength of evidence available at the time of preparation of the guidelines, and a brief overview of epidemiological aspects, diagnosis and investigation.

6.2 Definition

Primary cutaneous squamous cell carcinoma (SCC) is a malignant tumour that may arise from the keratinizing cells of the epidermis or its appendages. It is locally invasive and has the potential to metastasize to other organs of the body. These guidelines are confined to the treatment of SCC of the skin and the vermilion border of the lip, and exclude SCC of the penis, vulva and anus, SCC in situ (Bowen's disease), SCC arising from mucous membranes, and keratoacanthoma.

6.3 Incidence, Aetiology and Prevention

SCC is the second most common skin cancer and, in many countries, its incidence is rising.1-7. Its occurrence is usually related to chronic ultraviolet light exposure and is therefore especially common in the sun-damaged skin of fair-skinned individuals, in Albinos and in those with xeroderma pigmentosum. It may develop de novo, as a result of previous exposure to ionizing radiation or arsenic, within chronic wounds, scars, burns, ulcers or sinus tracts, and from pre-existing lesions such as Bowen's disease (“intraepidermal SCC”).8-17 Individuals with impaired immune function, for example those receiving immunosuppressive drugs following allogeneic organ transplantation or those with lymphoma or leukaemia, are at increased risk of this tumour. The risk of SCC with the new wave of “biologic” therapies (for inflammatory and haematological disease) has yet to be quantified, although reports identify cases of rapid-onset or reactivation of SCC in some patients with risk factors or a past history of the disease. 18-27 Some SCCs are associated with human papilloma virus infection.28-36 There is good evidence linking SCCs with chronic actinic damage (including that from the use of tanning devices) 8 and to support the use of sun avoidance, protective clothing and effective sunblocks 37 in the prevention of actinic keratoses and SCCs. These measures are particularly important for patients receiving long-term immunosuppressive medication.38-41 People with organ transplants are at high risk of
developing cutaneous SCC. Skin surveillance to allow early detection and treatment, and measures to prevent SCC should be part of their routine care. In patients with multiple, frequent or high-risk SCCs consideration should be given to modifying immunosuppressive regimens\textsuperscript{42,43} and the prophylactic use of systemic retinoids\textsuperscript{44,45} which may also be valuable in other high risk groups.\textsuperscript{46} Topical agents, such as imiquimod may have a useful role in preventing the development of skin dysplasia in high-risk renal transplant recipients but substantive evidence is awaited.\textsuperscript{47}

6.4 Clinical Presentation

SCC usually presents as an indurated nodular keratinizing or crusted tumour that may ulcerate or it may present as an ulcer without evidence of keratinization. All patients where there is a possibility of a cutaneous SCC should be referred urgently to an appropriately trained specialist, usually in the local Dermatology Department, rapid access skin cancer clinic.\textsuperscript{48}

6.5 Diagnosis

The diagnosis is established histologically. The histology report should include the following:

- Histopathological subtype (for example ‘acantholytic’, ‘desmoplastic’, ‘spindle’ or ‘verrucous SCC’), degree of differentiation (well, moderately, poorly or un-differentiated; histological grades as described by Broders: Appendix 2), tumour depth (thickness in mm – excluding layers of surface keratin), the level of dermal invasion (as Clark’s levels), and the presence or absence of perineural, vascular or lymphatic invasion.\textsuperscript{49} The margins of the excised tissue can be stained prior to tissue preparation to allow their identification histologically and comment should be made on the peripheral and deep margins of excision.\textsuperscript{50–64}

6.6 Communication

Having a diagnosis of cancer can evoke many emotions within a person. It is essential that each person with SCC receives very clear and fully informed advice about his or her tumour. A Skin Cancer Clinical Nurse Specialist can provide invaluable information, support and advice. Some people may require additional psychological support and this can often be accessed through the multiprofessional supportive and palliative care team. All clinicians working with people who have cancer should have advanced communication skills training.

6.7 Prognosis

The accumulated experience of treating cutaneous SCC by various methods has allowed some generalisations to be made about prognosis based on the original lesion.
Factors that influence metastatic potential include anatomical site, size, rate of growth, aetiology, degree of histological differentiation and host immunosuppression. These details are frequently omitted from reported series of treated SCC and the conclusions of such series must therefore be interpreted with caution. Patient referral patterns may influence local experience of this condition, and series reported from office practices tend to suggest a more favourable prognosis than cases reported from hospital and tertiary centres. Changes to the TNM staging system have been proposed to more accurately reflect the prognosis and natural history of cutaneous SCC.

6.71 Factors affecting metastatic potential of cutaneous squamous cell carcinoma (SCC)

Site
Tumour location influences prognosis: sites are listed in order of increasing metastatic potential.

1. SCC arising at sun-exposed sites excluding lip and ear.
2. SCC of the lip.
3. SCC of the ear.
4. Tumours arising in non-sun-exposed sites (e.g. perineum, sacrum, sole of foot).
5. SCC arising in areas of radiation or thermal injury, chronic draining sinuses, chronic ulcers, chronic inflammation or Bowen’s disease.

Size: diameter
Tumours greater than 2 cm in diameter are twice as likely to recur locally (15.2% vs. 7.4%), and three times as likely to metastasize (30.3% vs. 9.1%) as smaller tumours.

Size: depth
Tumours greater than 4 mm in depth (excluding surface layers of keratin) or extending down to the subcutaneous tissue (Clark level V) are more likely to recur and metastasize (metastatic rate 45.7%) compared with thinner tumours. Tumours less than 2 mm in thickness rarely metastasise. Recurrence and metastases are less likely in tumours confined to the upper half of the dermis and less than 4 mm in depth (metastatic rate 6.7%).

Histological differentiation
Poorly differentiated tumours (i.e. those of Broders’ grades 3 and 4) have a poorer prognosis, with more than double the local recurrence rate and triple the metastatic rate of better differentiated SCC. Acantholytic, spindle and desmoplastic subtypes have a poorer prognosis, whereas the verrucous subtype has a better prognosis. Tumours with perineural involvement, lymphatic or vascular invasion are more likely to recur and to metastasize.
Host immunosuppression
Tumours arising in patients who are immunosuppressed have a poorer prognosis. Host cellular immune response may be important both in determining the local invasiveness of SCC and the host's response to metastases.35, 36, 50

Previous treatment and treatment modality
The risk of local recurrence depends upon the treatment modality. Locally recurrent disease itself is a risk factor for metastatic disease. Local recurrence rates are considerably less with Mohs' micrographic surgery than with any other treatment modality.65, 75–77, 79–82

6.8 Treatment

In interpreting and applying guidelines for treatment of SCC, three important points should be noted:

- There is a lack of randomized controlled trials (RCTs) for the treatment of primary cutaneous SCC.
- There is widely varying malignant behaviour in those tumours that fall within the histological diagnostic category of “primary cutaneous SCC”.
- There are varied experiences among the different specialists treating these tumours; these are determined by referral patterns and interests. Plastic and maxillofacial surgeons may encounter predominantly high-risk, aggressive tumours, whereas dermatologists may deal predominantly with smaller and less aggressive lesions.

However, there are three main factors that influence treatment, which are:

- The need for complete removal or treatment of the primary tumour;
- The possible presence of local “in transit” metastases;
- The tendency of metastases to spread by lymphatics to lymph nodes.

The majority of SCCs are low risk and amenable to various forms of treatment, but it is essential to identify the significant proportion that are high-risk. These may be best managed by a multiprofessional team with experience of treating the most malignant tumours.66, 67, 69, 72, 83–86

The goal of treatment is complete (preferably histologically confirmed) removal or destruction of the primary tumour and of any metastases. In order to achieve this, the margins of the tumour must be identified.

The gold standard for identification of tumour margins is histological assessment, but most treatments rely on clinical judgement. It must be recognized that this is not always an accurate predictor of tumour extent, particularly where the margins of the tumour are ill-defined.
SCC may give rise to local metastases, which are discontinuous with the primary tumour. Such "in-transit" metastases may be removed by wide surgical excision or destroyed by irradiation of a wide field around the primary lesion. Small margins may not remove metastases in the vicinity of the primary tumour. Locally recurrent tumour may arise either due to failure to treat the primary continuous body of tumour, or from local metastases.50, 52, 66, 67, 69, 84, 91, 92

SCC usually spreads to local lymph nodes and clinically enlarged nodes should be examined histologically (for example by fine needle aspiration or excisional biopsy). Tumour-positive lymph nodes are usually managed by regional node dissection, but detailed discussion of the management of metastatic disease is beyond the scope of these guidelines.74, 93–96 In the absence of clinically enlarged nodes, techniques such as high resolution ultrasound-guided fine needle aspiration cytology may be useful in evaluating regional lymph nodes in patients with high risk tumours.97–100 The role of sentinel lymph node biopsy has yet to be established.101–109

Although there are many large series in which long term outcome after treatment for cutaneous SCC has been reported (comprehensively summarized in Rowe et al. 65), there are no large prospective randomized studies in which different treatments for this tumour have been compared.66, 90, 110–112

### 6.9 Guidelines for Patient Treatment

Conclusions from population–based studies do not necessarily indicate the best treatment for an individual patient. In particular, when choosing a treatment modality it is important to be aware of the factors that may influence success. Curettage and cautery, cryosurgery, and to a lesser degree radiotherapy, are all techniques in which the outcome depends of the experience of the physician.

Although the same could be said of surgical excision and Mohs' micrographic surgery, these two modalities provide tissue for histological examination that allows the pathologist to assess the adequacy of treatment and for the physician to undertake further surgery if necessary. For this reason, where feasible, surgical excision (including Mohs’ micrographic surgery where appropriate) should be regarded as the treatment of first choice for cutaneous SCC. The other techniques can yield excellent results in experienced hands, but the quality of treatment cannot be assured or audited contemporaneously by a third party.50, 65, 70, 88, 89, 94, 96, 110, 113–115

### 6.10 Surgical Excision
Surgical excision is the treatment of choice for the majority of cutaneous SCC. It allows full characterization of the tumour and a guide to the adequacy of treatment through histological examination of the margins of the excised tissue.\textsuperscript{52, 65}

When undertaking surgical excision a margin of normal skin is excised from around the tumour. For clinically well–defined, low risk tumours less than 2 cm in diameter, surgical excision with a minimum 4-mm margin around the tumour border is appropriate and would be expected to completely remove the primary tumour mass in 95\% of cases,\textsuperscript{88} (Strength of Recommendation A, Quality of Evidence II–iii). Narrower margins of excision are more likely to leave residual tumour.

In order to maintain the same degree of confidence of adequate excision, tumours more than 2 cm in diameter, tumours classified as moderately, poorly or undifferentiated, tumours extending into the subcutaneous tissue and those on the ear, lip, scalp, eyelids or nose should be removed with a wider margin (6 mm or more) and the tissue margins examined histologically, or with Mohs' micrographic surgery.\textsuperscript{75–77; 88}

It is only meaningful to consider such margins when the peripheral boundary of the tumour appears clinically well–defined. The concept of a “surgical margin” (i.e. normal–appearing tissue around the tumour) is based upon an assumption that the clinically visible margin of the tumour bears a predictable relationship to the true extent of the tumour, and that excision of a margin of clinically normal–appearing tissue around the tumour will encompass any microscopic tumour extension.

The wider the surgical margin, the greater the likelihood that all tumour will be removed. Large tumours have greater microscopic tumour extension and should be removed with a wider margin. This concept is equally valid for non–surgical treatments such as radiotherapy and cryotherapy in which a margin of clinically normal–appearing tissue is treated around the tumour.

Mohs' micrographic surgery does not make this assumption but displays the margins of the tissue for histological examination, and allows a primary tumour mass, growing in–continuity to be excised completely with minimal loss of normal tissue. There are important lessons to be learned from the experiences of micrographic surgery in treating cutaneous SCC (see below).\textsuperscript{60, 65, 75–77, 79, 89}

6.11 Local Metastases

Microscopic metastases may be found around high risk primary cutaneous SCC.\textsuperscript{67, 92, 95} Under these circumstances a “wide” surgical margin extending well beyond the primary
tumour may include such metastases and thus have a higher cure rate than a narrower margin. Mohs' micrographic surgery removes tumour growing in continuity but does not identify in-transit micrometastases. For this reason some practitioners of Mohs' micrographic surgery will excise a further surgical margin when treating high risk tumours after the Mohs' surgical wound has been histologically confirmed to be clear of the primary tumour mass.67, 95

6.12 Histological Assessment of Surgical Margins

Conventional histological examination of one or more transverse sections of excised tissue displays a cross section of the tumour and tissue margins. This is the best way of assessing and categorizing the nature of the tumour, and it is usual to comment on whether the tumour extends to the tissue margin, or if not, to record the margin of uninvolved skin around the tumour.49, 60 The value of such comments depends on how closely the section examined resects the excised tissue in general. If SCC appears to extend to the margin of the examined tissue, then it should be assumed, particularly if the true margin of the tissue has been stained prior to sectioning, that excision is incomplete.

Orientating markers or sutures should be placed in the surgical specimen by the surgeon to allow the pathologist to report accurately on the location of any residual tumour. A pathologist, using the conventional “breadloaf” technique for examining tissue, typically views only a small sample of the specimen microscopically, 60 and this may allow incompletely excised high risk tumour to go undetected. There are several alternative tissue preparations that allow the peripheral margins of the excised tissue to be more comprehensively examined.87.

The clinician and pathologist must work closely together in order to ensure appropriate sampling and microscopic examination of excised tissue, particularly with high-risk tumours.60, 87

Mohs' micrographic surgery differs because the tissue is not displayed in cross-section and, if the first level of excision is adequate, tumour may not be seen at all in the microscopic sections. There are technical factors that may occasionally hamper identification of SCC in frozen sections and under these circumstances final histological examination should be undertaken on formalin–fixed tissue.116, 117

6.13 Mohs' Micrographic Surgery

Mohs' micrographic surgery allows precise definition and excision of primary tumour growing in-continuity, and as such would be expected to reduce errors in primary treatment that may arise due to clinically invisible tumour extension. There is good evidence that the incidence of local recurrent and metastatic disease are low after Mohs' micrographic surgery.
and it should therefore be considered in the surgical treatment of high-risk SCC, particularly at difficult sites where wide surgical margins may be technically difficult to achieve without functional impairment.\textsuperscript{52, 65} \textit{(Strength of Recommendation B, Quality of Evidence II–iii)}.

The best cure rates for high risk SCCs are reported in series treated by Mohs' micrographic surgery.\textsuperscript{65, 81, 82, 116–118} Where Mohs' micrographic surgery is indicated but not available then one of the other histological techniques to examine the peripheral margin of the excised tissue should be employed.\textsuperscript{87}

However, there are no prospective randomized studies comparing therapeutic outcome between conventional or wide surgical excision vs. Mohs' micrographic surgery for cutaneous SCC.

It is firmly established that incomplete surgical excision is associated with a worse prognosis and, when doubt exists as to the adequacy of excision at the time of surgery, it is desirable, where practical, to delay or modify wound repair until complete tumour removal has been confirmed histologically.\textsuperscript{50, 65–69, 78}

\textbf{6.14 Curettage and Cautery}

Excellent cure rates have been reported in several series and experience suggests that small (<1 cm) well-differentiated, primary, slow-growing tumours arising on sun-exposed sites can be removed by experienced physicians with curettage.\textsuperscript{65, 90, 110, 114, 119} There are few published data relating outcome after curettage of larger tumours and different clinical tumour types.

The high cure rates reported following curettage and cautery of cutaneous SCC \textit{(Quality of Evidence II–iii)} may reflect case selection, with a greater proportion of small tumours treated by curettage than by other techniques, but also raise the question as to whether curettage per se has a therapeutic advantage. The experienced clinician undertaking curettage can detect tumour tissue by its soft consistency and this may be of benefit in identifying invisible tumour extension and ensuring adequate treatment. Conventionally, cautery or electrodesiccation is applied to the curetted wound and the Curettage–cautery cycle then repeated once or twice.

Curettage is routinely undertaken to “debulk” the tumour prior to Mohs' micrographic surgery, but is of no proven benefit prior to standard surgical resection.\textsuperscript{120} Curettage provides poorly orientated material for histological examination and no histological assessment of the adequacy of treatment is possible. Curettage and cautery is not appropriate treatment for locally recurrent disease or high risk tumours.

\textbf{6.15 Cryosurgery}
Good short-term cure rates have been reported for small histologically confirmed SCC treated by cryosurgery in experienced hands. Prior biopsy is necessary to establish the diagnosis histologically. There is great variability in the use of liquid nitrogen for cryotherapy and significant transatlantic variations in practice. For this reason caution should be exercised in the use of cryotherapy for SCC, although it may be an appropriate technique for selected cases in specialised centres. Cryosurgery is not appropriate for locally recurrent disease or high risk tumours.

6.16 Radiotherapy

Radiotherapy is generally contraindicated in the younger patient because the scar from surgery is usually less noticeable than the pallor and telangiectases which develop as a late effect in irradiated skin. In some circumstances radiotherapy will give a better cosmetic effect, particularly where loss of tissue is likely to cause cosmetic or functional impairment. For example, the lower eyelid, the inner canthus of the eye, the lip, the tip of the nose and in some cases the ear. SCC can be cured by radiotherapy in more than 90% of cases. Choice of radiotherapy modality (electrons or photons) dose and technique require experience and the involvement of a qualified clinical oncologist.

Some skin sites tolerate radiotherapy poorly, e.g. the back of the hand, the abdominal wall and the lower limb, and surgical excision is preferable at these sites. Any tumour invading cartilage or bone, e.g. over the ear or nose is best treated surgically to avoid radio–necrosis.

In all cases where there is debate about whether radiotherapy or surgery is the best option, close liaison should take place between the dermatologist, clinical oncologist and plastic surgeon ideally in a multi-disciplinary clinic.

6.17 Other Treatments

Other reported treatments include: topical Imiquimod, intralesional Interferon Alpha, intralesional 5–Fluorouracil, and photodynamic therapy. Evidence for the role of these treatments is lacking and limited to isolated case reports (Strength of Recommendation C, Quality of Evidence IV).

6.18 Elective Prophylactic Lymph Node Dissection

Elective prophylactic lymph node dissection has been proposed for SCC on the lip greater than 6 mm in depth and cutaneous SCC greater than 8 mm in depth, but evidence for this is weak (Strength of Recommendation C, Quality of Evidence II–iii). Elective lymph node dissection is not routinely practised and there is no compelling evidence of benefit over morbidity.
There has been recent interest in the application of sentinel lymph node biopsy in the management of high risk SCC. The procedure is technically feasible and may help avoid unnecessary lymph node dissection. However, the overall benefit of the technique in patients with SCC has yet to be determined.101–109

6.19 The Multiprofessional Oncology Team

Patients with high risk SCC and those presenting with clinically involved lymph nodes should ideally be reviewed by a multiprofessional oncology team which includes a dermatologist, pathologist, appropriately trained surgeon (usually a plastic, ENT or maxillo-facial surgeon), clinical oncologist and a clinical nurse specialist in skin cancer 48. Some advanced tumours are not surgically resectable and these should be managed in a multiprofessional setting in order that other therapeutic options are considered. Patients should be provided with suitable written information concerning diagnosis, prognosis, self examination and follow-up support, local and national support organizations and, where appropriate, access to a multiprofessional palliative care team.

6.110 Follow Up

For Post Treatment Follow Up procedure please see Chapter 9.

Summary of treatment options for primary cutaneous squamous cell carcinoma

Please see Table 1 for recommendations.

Broders' histological classification of differentiation in squamous cell carcinoma

Broders devised a classification system in which grades 1, 2 and 3 denoted ratios of differentiated to undifferentiated cells of 3:1, 1:1 and 1:3, respectively. Grade 4 denoted tumour cells having no tendency towards differentiation.

Appendix 1 Strength of recommendations and quality of evidence (a)

See Chapter 4 of these guidelines

For Full BAD Guideline for Squamous Cell Carcinoma see their website guidelines page, scroll down to Squamous Cell Carcinoma (Press control and click on the link below)

http://www.bad.org.uk//site/622/default.aspx

Table 1: Summary of treatment options for primary cutaneous squamous cell carcinoma

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Indications</th>
<th>Contraindications</th>
<th>Notes</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Surgical Excision</th>
<th>All resectable tumours</th>
<th>Where surgical morbidity is likely to be unreasonably high</th>
<th>General treatment of choice for SCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohs Micrographic Surgery / Excision with histological control</td>
<td>High risk tumours</td>
<td>Where surgical morbidity is likely to be unreasonably high</td>
<td>High risk tumours need wide margins or histological margin control</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>Non–resectable tumours</td>
<td>Where tumour margins are ill–defined</td>
<td></td>
</tr>
<tr>
<td>Curettage and Cautery</td>
<td>Small, well–defined, low–risk tumours</td>
<td>High risk tumours</td>
<td>Only suitable for experienced practitioners</td>
</tr>
<tr>
<td>Cryotherapy</td>
<td>Small, well–defined, low–risk tumours</td>
<td>High risk tumours, recurrent tumours</td>
<td>Only suitable for experienced practitioners</td>
</tr>
</tbody>
</table>

**Broders Histological Classification of Differentiation In SCC**
Broders devised a classification system in which grades 1, 2 and 3 denoted ratios of differentiated to undifferentiated cells of 3:1, 1:1 and 1:3 respectively. Grade 4 denoted tumour cells having no tendency towards differentiation.

**Risk Factors: Primary Cutaneous Squamous Cell Carcinoma**

<table>
<thead>
<tr>
<th>Site</th>
<th>Diameter</th>
<th>Tumour Depth and level of invasion</th>
<th>Histological Features and subtype</th>
<th>Host Immune status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>SCC arising at sun exposed sites excluding lip and ear</td>
<td>Tumours up to 20 mm in diameter</td>
<td>Tumours up to 4 mm in depth and confined to dermis</td>
<td>Well differentiated tumour or Verrucous subtype</td>
</tr>
<tr>
<td>High</td>
<td>SCC of lip or</td>
<td>Tumours</td>
<td>Tumours</td>
<td>Moderately</td>
</tr>
<tr>
<td>Risk</td>
<td>ear</td>
<td>more than 20 mm in diameter</td>
<td>more than 4 mm in depth or invading beyond dermis</td>
<td>differentiates tumour</td>
</tr>
<tr>
<td>--------------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Recurrent SCC</td>
<td></td>
<td></td>
<td></td>
<td>Poorly differentiated tumour</td>
</tr>
<tr>
<td>SCC arising in non exposed sites such as perineum, sacrum, sole of foot</td>
<td></td>
<td></td>
<td></td>
<td>Perineural invasion Acantholytic, Spindle, or Desmoplastic subtypes</td>
</tr>
<tr>
<td>SCC arising in radiation or thermal scars, chronic ulcers or inflammation or Bowen’s disease</td>
<td></td>
<td></td>
<td></td>
<td>Incomplete excision</td>
</tr>
</tbody>
</table>

Tumours with features confined to the first row are considered ‘low risk’ all others are ‘high risk’.

### 7. Malignant Melanoma (MM)

**Revised U.K. Guidelines for the Management of Cutaneous Melanoma 2010**

#### 7.1 Introduction
These consensus guidelines have been drawn up by a multidisciplinary working party with membership drawn from a variety of groups and co-ordinated by the Melanoma Study Group and the British Association of Dermatologists. The guidelines deal with aspects of the management of melanoma from the prevention of melanoma through the stages of diagnosis and initial treatment to palliation of advanced disease.

7.2 Integration with national cancer guidance

Multidisciplinary care of the patient is held to be the most desirable model, as recommended in the Calman-Hine report. This has been defined by the National Institute for Health and Clinical Excellence (NICE) Improving Outcomes for People with Skin Tumours including Melanoma. Core services will be provided within each Cancer Network by Local Skin Cancer Multidisciplinary Teams (LSMDTs). Specialist services will be provided by Specialist Skin Cancer Multidisciplinary Teams (SSMDTs). For melanoma there is a clear demarcation of care such that more advanced primary melanoma, rare subtypes of melanoma, melanoma in children, and patients eligible for trial entry or sentinel lymph node biopsy (SLNB) should be promptly referred for investigation and treatment from an LSMDT to an SSMDT (Table 1).

Table 1 Melanoma patients who must be referred from a Local Skin Cancer Multidisciplinary Team to a Specialist Skin Cancer Multidisciplinary Team (SSMDT) (National Institute for Health and Clinical Excellence Improving Outcomes for People with Skin Tumours including Melanoma, 2006)

- Patients with melanoma managed by other site specialist teams, e.g. gynaecological, mucosal and head and neck (excluding ocular)
- Patients with stage IB or higher primary melanoma when sentinel lymph node biopsy (SLNB) is available within their Network. In the absence of SLNB then patients with stage IIB or higher should be referred to the SSMDT (American Joint Committee on Cancer staging system)
- Patients with melanoma at any stage who are eligible for clinical trials that have been approved at Cancer Network level
- Patients with multiple primary melanomas
- Children and young adults under 19 years with melanoma
- Any patient with metastatic melanoma diagnosed at presentation or on follow up
- Patients with giant congenital naevi where there is suspicion of malignant transformation
- Patients with skin lesions of uncertain malignant potential

7.3 Prevention of Melanoma

Individuals, and particularly children, should not get sunburnt (Level I). Meta-analysis of case–control studies provides good evidence that melanoma is caused predominantly by
intermittent intense sun exposure; fair-skinned individuals should therefore limit their recreational exposure through life (Level I).10

People with freckles, red or blond hair, skin which burns in the sun, increased numbers of naevidt, and those with a family history of melanoma are at increased risk and should heed this advice. Adequate sun exposure to allow vitamin D synthesis, or sufficient dietary intake of vitamin D3, is essential to human health; insufficiency of vitamin D is now recognized to be common.11 It would therefore be inappropriate to greatly limit sun exposure in people without the risk factors listed above. Recent studies have shown that in the U.K. vitamin D levels are often suboptimal in melanoma patients, and are lower in fair-skinned people.12,13 Fair-skinned people who avoid the sun rigorously to reduce the risk of melanoma should consider supplementing their intake of vitamin D3 in the absence of medical contraindications. There is evidence from a recent meta-analysis that sun bed usage does increase the risk of melanoma, particularly under the age of 35 years, and therefore it is recommended that this should be avoided (Level Ia).14

7.4 Referral & Clinical Diagnosis

Melanoma remains relatively uncommon and therefore the opportunity to develop diagnostic skills is limited in primary care. All lesions suspicious of melanoma should be referred urgently under the 2-week rule to local screening services usually run by dermatologists. In England and Wales, this would be to an LSMDT. In Scotland, referral should be made to a local Rapid Access Cancer Clinic according to Scottish Cancer Referral Guidelines.

The seven-point checklist or the ABCD rule may be helpful in the identification of melanomas although they are more sensitive than specific.15–18 Urgent referral to the LSMDT is indicated where there is:

- A new mole appearing after the onset of puberty which is changing in shape, colour or size
- A long-standing mole which is changing in shape, colour or size
- Any mole which has three or more colours or has lost its symmetry
- A mole which is itching or bleeding
- Any new persistent skin lesion especially if growing, if pigmented or vascular in appearance, and if the diagnosis is not clear
- A new pigmented line in a nail especially where there is associated damage to the nail
- A lesion growing under a nail

Lesions which are suspicious for melanoma should not be removed in primary care. This is because clinicopathological correlation is vital for diagnostic accuracy, which in turn
determines prognosis and defines adjuvant treatment options, and because diagnostic surgery requires specialist training. Early recognition of melanoma presents the best opportunity for cure.\textsuperscript{15, 19–22} (Level III, Grade A).

All patients presenting with an atypical melanocytic lesion or a large number of moles should have a complete skin examination and assessment of risk factors. The dermoscope is a useful tool for the trained clinician screening pigmented lesions, as it can increase diagnostic accuracy.\textsuperscript{23} It is also useful for monitoring multiple pigmented lesions where photography of dermoscopic images provides a record of change (Level Ia, Grade A). Recommendations for LSMDT record keeping of clinical features are provided in Table 2.

\textbf{Table 2 Recommendations for Local Skin Cancer Multidisciplinary Team record keeping of clinical features}

As a minimum the following should be included:

<table>
<thead>
<tr>
<th>History (the presence or absence of these changes should be recorded)</th>
<th>Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of the lesion</td>
<td>Site</td>
</tr>
<tr>
<td>Change in size</td>
<td>Size (maximum diameter)</td>
</tr>
<tr>
<td>Change in colour</td>
<td>Elevation (flat, palpable, nodular)</td>
</tr>
<tr>
<td>Change in shape</td>
<td>Description (irregular margins, irregularpigmentation and if ulceration is present)</td>
</tr>
<tr>
<td>Symptoms (itching, bleeding etc.)</td>
<td>(Level III, Grade B)</td>
</tr>
</tbody>
</table>

\textbf{Screening and surveillance of high–risk individuals}

There are some individuals at higher risk of melanoma who should be considered for referral to specialist clinics. These individuals can be divided broadly into two groups based upon the degree of risk.

\textbf{Individuals at moderately increased risk}

(approximately 8–10 times that of the general population) should be counselled about this risk and taught how to self–examine for changing naevi, but very long–term follow–up is not usual.

Such patients are those with either a previous primary melanoma or large numbers of moles, some of which may be clinically atypical. (level III, Grade B)\textsuperscript{24–28}
Those at greatly increased risk of melanoma
(more than 10 times that of the general population). Patients with a giant congenital pigmented hairy naevus (definitions include: “20 cm or more in diameter” and “5% of body surface area”) should be monitored by an expert for their lifetime because of the risk of malignant change, which is significant but poorly quantified. (Level III, Grade B) 31, 32 Excision biopsy of suspicious areas in large congenital naevi may be necessary but requires expert histopathological review.

Patients with a strong family history of melanoma are also at greatly increased risk. In some families, most clearly in mainland Europe and North America, families at risk of melanoma are also at increased risk of pancreatic cancer.33 Those with three or more cases of melanoma in the extended family should be referred to appropriate clinics managing inherited predisposition to cancer (involving dermatologists and / or clinical geneticists) for counselling. It is the consensus of the Melanoma Genetics Consortium (http://www.genomel.org) that it is premature to suggest gene testing routinely but this may change as more is known of the genes predisposing to melanoma.34

The risk to families associated with the presence of two family members affected with melanoma is lower. In these families, if affected individuals also have the atypical mole syndrome, or if there is a history of multiple primary tumours in an individual, then referral should also be made for counselling; otherwise, family members should probably be considered at moderately increased risk.

All of the above individuals at increased risk of melanoma should be advised on the specific changes that suggest melanoma and encouraged to undertake monthly skin self examination (level III, Grade B). Close–up and distant photography may be a useful adjunct to detecting early melanoma in either of these high–risk groups (Level III). They should be given written information and access to images of moles and melanomas. Such images are available at: http://www.genomel.org or http://www.bad.org.uk

Recommendations for screening and surveillance of high–risk individuals are summarized in Table 3.

Table 3 Recommendations for screening and surveillance of high–risk individuals
- Patients who are at moderately increased risk of melanoma should be advised of this and taught how to self examine. This includes patients atypical mole phenotype, those with a previous melanoma and organ transplant recipients (Level Ia, Grade B)
- Patients with giant congenital pigmented naevi are at increased risk of melanoma and require long–term follow–up. (Level IIIa, Grade B)
- Individuals with a family history of three or more cases of melanoma, or of pancreatic cancer, should be referred to a Clinical Geneticist or specialised dermatology services for counselling. Those with two cases in the family may also benefit, especially if one of the cases had multiple primary melanomas or the atypical mole syndrome. (Grade B, level IIa)
7.5 Biopsy of suspected melanoma

A lesion suspected to be melanoma, or where melanoma needs to be excluded, should be photographed, and then excised completely. The axis of excision should be orientated to facilitate possible subsequent wide local excision; generally on the limb this will be along the long axis. If uncertain, direct referral to the multidisciplinary team (MDT) will allow appropriate planning for future surgery. The excision biopsy should include the whole tumour with a clinical margin of 2 mm of normal skin, and a cuff of fat. This allows confirmation of the diagnosis by examination of the entire lesion, such that subsequent definitive treatment can be based on Breslow thickness.35-37

Diagnostic shave biopsies should not be performed as they may lead to incorrect diagnosis due to sampling error, and make accurate pathological staging of the lesion impossible (Level III).

For the same reasons partial removal of naevi for diagnosis must be avoided and partial removal of a melanocytic naevus may result in a clinical and pathological picture very like melanoma (pseudomelanoma). This gives rise to needless anxiety and is avoidable. Incisional or punch biopsy is occasionally acceptable, for example in the differential diagnosis of lentigo maligna (LM) on the face or of acral melanoma, but there is no place for either incisional or punch biopsy outside the skin cancer MDT (Level III). It is acceptable in certain circumstances to excise the lesion entirely but without repair, and to dress the wound while awaiting definitive pathology.

Biopsies of possible subungual melanomas should be carried out by surgeons regularly doing so. The nail should be removed sufficiently for the nail matrix to be adequately sampled: clinically obvious tumour should be biopsied if present. Prophylactic excision of naevi, or of small (< 5 cm diameter) congenital naevi in the absence of suspicious features is not recommended (Level III, Grade D).

Full clinical details should be supplied on the histopathology form, including history of the lesion, relevant previous history, site and differential diagnosis. All melanocytic lesions excised for whatever reason must be sent for histopathological review to the pathologist associated with the LSMDT or SSMDT.

The diagnosis of melanoma, both in situ and invasive, should be given or supervised by doctors who have received advanced communication skills training, following local policies for breaking bad news. A skin cancer trained nurse should be present to provide continuing support.
7.6 Histopathology

7.61 General comments
The Royal College of Pathologists has produced a minimum dataset which should be included in the histopathology report. Double reporting is recommended for all melanomas and all naevi showing severe dysplasia if resources allow this to be achieved within 14 days.

The report should include the following:

7.62 Clinical information
- Site of the tumour
- Type of surgical procedure: excision or re-excision, incision biopsy, punch biopsy
- Any other relevant clinical information

7.63 Macroscopic description
Contour, colour and size of the tumour and the excised skin specimen in millimetres.

7.64 Microscopy

Presence or absence of ulceration
Ulceration has prognostic value, and its presence should be confirmed microscopically as full-thickness loss of epidermis with reactive changes which include a fibrinous exudate and attenuation or acanthosis of the adjacent epidermis. These distinguish true ulceration from artefact.

Thickness
The tumour should be measured from the granular layer of the overlying epidermis to the deepest cells in the dermis judged to be malignant, to the nearest 0.1 mm. Ulcerated tumours should be measured from the base of the ulcer. Tumour forming a sheath around appendages should be excluded when measuring thickness except when the melanoma extends out into the adjacent reticular dermis when it should be measured in the conventional manner. In the presence of histological regression thickness measurements should be of the residual melanoma. Microsatellites should not be included in thickness measurements (Level III, Grade B).

Mitotic count
The number of mitoses has prognostic value and is now included in the American Joint Committee on Cancer (AJCC) staging system for melanomas ≤ 1.0 mm. It should be recorded as number of mitoses mm−2 in the area of greatest number of mitoses in the vertical growth phase (VGP). It has prognostic value at all thicknesses.

Histological subtypes
Desmoplastic melanoma with or without neurotropism should be recorded because of its different biological behaviour and clinical outcome. The subtypes superficial spreading, nodular, LM and acral lentiginous melanomas have good clinicopathological correlation, but their prognostic value has not been established.

**Margins of excision**
This indicates whether excision is complete and the minimum margin of excision to peripheral and deep aspects measured in millimetres. If the excision or re-excision is not complete, whether the tumour is in situ or invasive at the resection margin should be indicated. When possible a statement should be made of whether the lesion is primary or secondary melanoma.
**Pathological staging**
Staging using TNM and AJCC (Table 4), and coding, e.g. SNOMED, should be given. Growth phase Invasive melanoma without a VGP is termed microinvasion. The assessment of microstaging criteria should be applied to the VGP only.

**Regression**
The presence or absence of tumour regression has not been shown consistently to affect long-term outcome. Until its relevance is clear it should be reported as segmental replacement of melanoma by fibrosis, as this is subject to less observer variation.

**Tumour-infiltrating lymphocytes**
It remains unclear whether tumourinfiltrating lymphocytes have prognostic value. The categories absent, non-brisk and brisk are subject to wide observer variation. ‘Absent’ indicates no lymphocytes infiltrating among the tumour cells, but does not exclude lymphocytes in the surrounding dermis. ‘Non–brisk’ is a patchy or discontinuous infiltrate either among the peripheral cells or in the centre of the tumour, whereas ‘brisk’ is a continuous infiltrate but may be confined to peripheral cells. These are qualified as mild, moderate or severe in intensity.

**Lymphatic or vascular invasion**
Vascular or lymphatic infiltration has prognostic value, and its presence should be recorded even though it is infrequently observed.

**Perineural infiltration**
Perineural infiltration occurring beyond the main bulk of the tumour correlates with increased local recurrence. It is most commonly associated with desmoplastic melanoma.

**Microsatellites**
These are defined as islands of tumour > 0.05 mm in the tissue beneath the main invasive mass of melanoma, but separated from it by 0.3 mm of normal collagen (i.e. not tumour stroma or sclerosis of regression). Current AJCC staging also requires that satellites must be intralymphatic, which has not previously been required; this may be subject to revision. Microsatellites are predictive of regional lymph node metastases; this is reflected by stage N2c.

**Precursor naevus**
The presence of contiguous melanocytic naevus should be recorded. Clark level of dermal invasion. This is a less reliable indicator of prognosis than thickness and is subject to poor observer agreement. It is not used to define T1 melanomas in the 2009 AJCC staging system, except that Clark levels IV or V may be used for defining T1b melanoma in rare instances when mitotic count cannot be determined in a nonulcerated T1 melanoma.
### Table 4 The 2009 American Joint Committee on Cancer (AJCC) staging system

<table>
<thead>
<tr>
<th>Stage</th>
<th>Primary tumour (pT)</th>
<th>Lymph nodes (N)</th>
<th>Metastases (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>&lt; 1 mm, no ulceration, mitoses &lt; 1 mm&lt;sup&gt;−1&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB</td>
<td>&lt; 1 mm, with ulceration or mitoses ≥ 1 mm&lt;sup&gt;−1&lt;/sup&gt; *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIA</td>
<td>1.01–2 mm, no ulceration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIB</td>
<td>2.01–4 mm, with ulceration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIC</td>
<td>&gt; 4 mm, no ulceration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIA</td>
<td>Any Breslow thickness, no ulceration</td>
<td>Micrometastases</td>
<td></td>
</tr>
<tr>
<td>IIIB</td>
<td>Any Breslow thickness, with ulceration</td>
<td>Micrometastases</td>
<td>1–3 nodes</td>
</tr>
<tr>
<td>IIIC</td>
<td>Any Breslow thickness, with or without ulceration</td>
<td>Up to three palpable lymph nodes</td>
<td>Four or more nodes or matted nodes or in-transit disease + lymph nodes</td>
</tr>
</tbody>
</table>

*In cases where mitotic count cannot be accurately determined, a Clark level of invasion of either IV or V can be used to define T1b melanoma. Every patient with melanoma should be accurately staged using the AJCC system; this may include performing a sentinel lymph node biopsy when this is recommended by the Specialist Skin Cancer Multidisciplinary Team. Staging should be updated following relapse.

### Table 5 Requirements for microscopy of melanoma

- IV, M1a: Skin, subcutaneous or distant nodal disease
- IV, M1b: Lung metastases
- IV, M1c: All other sites or any other sites of metastases with raised lactate dehydrogenase
Equivocal lesions
It may not be possible to distinguish pathologically between a melanoma and a benign melanocytic lesion. Such patients must be referred to the SSMDT for clinical and pathological review. A decision to treat as a melanoma should be made by the SSMDT in discussion with the patient. Thickness should be measured as for melanoma.

Sentinel lymph node pathology
Pathological assessment
This needs to be done in a standardized way so that findings between centres are comparable (Level III, Grade B).

Dissection
The dissection should be either by bivalving or multiple slicing, although the former is recommended. A minimum of six serial sections should be taken, but a higher incidence of metastases is detected by extended step sectioning with immunohistochemistry at each level. The clinical relevance of the smaller metastases detected by these extended procedures is still unclear.

Staining
Use of haematoxylin and eosin and immunohistochemistry is essential. S100 and Melan A are most favoured immunohistochemical stains but a composite method such as PanMel is also appropriate.

Assessment of tumour burden
This gives additional prognostic information. The following are recommended:
Assessing the depth of the metastasis from the inner aspect of the sentinel lymph node capsule; Categorizing the metastasis according to its site, either subcapsular or parenchymal;
Measuring the maximum dimension of the largest confluent group of melanoma cells.

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*Mitotic count is included in the 2009 American Joint Committee on Cancer staging system. Microsatellites are not included in thickness measurement.

[Correction to Table 5 – removal of column headings and ‘Clark level’ under column previously headed ‘Desirable features’ made after online publication on 15th July 2010]
Completion lymphadenectomy specimens
The pathological examination of regional nodes dissected following positive SLNB should include an attempt to examine all lymph nodes at least at one level, and count the number involved. The presence of extracapsular spread and involvement of perinodal fat should be recorded together with the size of the tumour-free margin. The use of immunohistochemistry such as S100 or Melan A facilitates this.

7.7 Investigations and imaging

7.71 Stage I and II melanoma
Routine investigations are not required for asymptomatic patients with primary melanoma. Blood tests are unhelpful. Routine computed tomography (CT) is not recommended for patients with stage I and II melanoma as this has a very low incidence of true-positive and high incidence of false-positive findings. Patients with particularly high-risk primary melanoma may undergo staging investigations if deemed appropriate by the SSMDT and/or as a prerequisite to trial entry. There is no indication for routine imaging with any other modality including plain X-ray, positron emission tomography (PET)/CT and magnetic resonance imaging (MRI). PET/CT is not effective in detecting positive sentinel lymph nodes and/or distant metastases in patients with primary melanoma 53-58 (Level IIa, Grade E).

7.72 Sentinel lymph node biopsy and ultrasound/fine needle aspiration cytology
SLNB, as discussed later, has high sensitivity and specificity for diagnosing subclinical regional lymph node involvement. Ultrasound and fine needle aspiration cytology (FNAC) is the next best method but quoted sensitivities range from 4.7% to 80%, with the higher sensitivities being achieved only by sentinel node mapping and FNAC of the sentinel node in all cases regardless of morphological appearance.59-62 Further staging by CT imaging following a positive sentinel lymph node, and prior to completion lymphadenectomy, has a very low yield.63-65 Consequently this should be done only after discussion with an informed patient and the SSMDT (Level IIa, Grade D).

7.73 Stage III and IV melanoma
In stage III and IV melanoma, imaging strategies will be planned by the SSMDT. CT scanning of the head, chest, abdomen and pelvis will normally adequately exclude metastases, and is most relevant in stage III melanoma before planning regional lymph node dissection (LND) and regional chemotherapy. If patients are considering entry to an adjuvant study following lymphadenectomy, the timing of scans should be determined by the SSMDT to avoid duplication.

When stage IV disease is suspected clinically, CT scanning of the head and whole body should be considered. Further imaging will be determined by symptoms, clinical trial protocols, and for clarification or reassessment of previous imaging findings. Generally, the added yield of PET/CT is unlikely to be clinically relevant in established stage IV melanoma (Level III, Grade D). Where metastasectomy is planned, PET/CT may be useful in excluding
disease that might make surgery inappropriate. Serum lactate dehydrogenase (LDH) should be measured in all patients with suspected stage IV melanoma.

There is no indication for a bone scan in staging except where symptoms point to possible bone disease. Staging investigations are summarized in Table 6.

**Table 6 Staging investigations for melanoma**

- Patients with stage I, II and IIIA melanoma should not routinely be staged by imaging or other methods as the true-positive pick-up rate is low and the false-positive rate is high (Level IIa, Grade E)
- Patients with stage IIIB or IIIC melanoma should be imaged by computed tomography of head, chest, abdomen and pelvis prior to surgery after SMMDT review (Level IIa, Grade A)
- Patients with stage IV melanoma should be imaged according to clinical need and SMMDT review. Lactate dehydrogenase should also be measured (Level III, Grade A)

SSMDT, Specialist Skin Cancer Multidisciplinary Team.

### 7.74 Treatment of the primary lesion

Surgery is the only curative treatment for melanoma. Following excision for diagnosis and for measurement of microscopic Breslow thickness, a wider and deeper margin is taken to ensure complete removal of the primary lesion, and to remove any micrometastases. The depth of the therapeutic excision has conventionally been to the muscle fascia or deeper, and there is no evidence to support altering this approach.

Lateral surgical excision margins for invasive melanoma depend on Breslow thickness and are based on five randomized controlled trials (RCTs) including about 3300 patients, and a National Institutes of Health Consensus Panel.\textsuperscript{66–73} However, only one of these studies is adequately powered, and two provide little scope for detecting reduced disease–free or overall survival due to narrow margins.\textsuperscript{68, 69, 71} Most exclude melanoma on the head and neck and/or extremities.\textsuperscript{74} A recent systematic review estimated overall survival in favour of wide excision (hazard ratio 1.04; 95% confidence interval 0.95–1.15; P = 0.40), although the difference was not significant. Therefore a small, but potentially important, difference in overall survival between wide and narrow excision margins cannot be confidently ruled out. Current randomized trial evidence is insufficient to address optimal excision margins for primary cutaneous melanoma.\textsuperscript{75}

The recommended surgical margins are those measured clinically at the time of surgery, but adequacy of excision should be subsequently confirmed by review of re–excision histology, making an adjustment for average shrinkage of 20%.\textsuperscript{76}
The final decision about the size of the margin should be made by the MDT, after discussion with the patient. The recommendation should be made with consideration of functional and cosmetic implications of the margin chosen.

All patients with primary melanoma stage IB and higher should be referred before treatment to an SSMDT when this provides an SLNB service. When the SSMDT does not provide this, all primary melanomas stage IIB or IIC should be referred. There are no RCT data for margin size for LM or other in situ melanoma.

7.75 Lentigo maligna and in situ superficial spreading melanoma
LM and other in situ melanomas have no potential for metastatic spread and the aim should be to excise the lesion completely with a clear histological margin, although margin size remains undefined. No further treatment is then required.

LM is best treated by complete excision because of the risk of subclinical microinvasion. This may be missed on incisional biopsy due to sampling error. The risk of progression to invasive melanoma is poorly quantified, and in the very elderly may be unlikely within their lifespan. Therefore, for some particular clinical situations, treatment by other methods such as radiotherapy, or observation only may be appropriate. There is little evidence to support the use of cryotherapy, and this treatment may make subsequent progression difficult to detect. Topical treatment with imiquimod is as yet of unproven value so should be used only in the context of a clinical trial.

If the patient with LM is treated by nonsurgical means then the reason for this choice should be discussed and clearly documented by the MDT.

Local recurrence of LM occurs in about 5% of patients by 2 years. Excision with micrographic control of surgical margins should be considered, although histological clearance is often difficult to define. In situ melanoma on acral and genital skin is also associated with a higher risk of local recurrence, but this is less common in other types of in situ melanoma. In theory, in situ melanoma should not metastasize, but occasional cases do recur. This may be due to histological regression obscuring a more advanced tumour, missed microinvasion, or progression after incomplete removal of in situ disease.

7.76 Melanoma up to 1.0 mm Breslow thickness
There have been three RCTs of patients with melanomas in this thickness band. The recommended surgical margins are based on the World Health Organization (WHO) Melanoma Co-operative Group Trial 10. This randomized trial compared 1 and 3 cm margins for melanomas up to 2 mm thick. No local metastases, and similar overall survival, were seen in patients with melanomas < 1 mm in depth with either excision margin. However, this was based on analysis of data from only 359 patients. The French and Swedish studies compared 2 cm with 5 cm margins, and the latter included only patients with melanomas 0.8 mm or more in thickness in this group. A 1 cm margin is deemed safe for this group (Level Ib, Grade A).
7.77 Melanoma 1.01–2.0 mm Breslow thickness
There have been four randomized studies that have included patients in this category. The WHO study showed a small excess of local metastasis as first site of relapse in the 1 cm margins group.\textsuperscript{66,73} There was no difference in overall survival between 1 and 3 cm margins but the study was inadequately powered to detect this. The Intergroup Melanoma Trial compared 2 vs. 4 cm margins of excision for lesions of 1–4 mm in thickness.\textsuperscript{67,70} No difference was seen between the two groups in either local recurrence or survival. Two other studies have included patients with melanomas up to 2 mm, also treated with either 2 or 5 cm margins.\textsuperscript{68,69} There was no difference in outcome between the groups.

The 1 vs. 3 cm, 2 vs. 4 cm and 2 vs. 5 cm studies cannot be compared directly, but no study using 2 cm margins as one comparator has shown any advantage of wider margins than this. However, trials of narrower margins have either not been performed (e.g. 1 vs. 2 cm margins) or have been underpowered, and do not permit a definite conclusion that a 1 cm margin is adequate.

Evidence to date shows that a minimum margin of 1 cm is required, although 2 cm margins are equally appropriate. The final decision will be determined by anatomical site, MDT review, and after discussion with an informed patient (Level Ib, Grade A).

7.78 Melanoma 2.01–4.0 mm Breslow thickness
The Intergroup Melanoma Trial showed no difference in rates of local metastasis between patients treated with 2 cm, and those treated with 4 cm margins.\textsuperscript{67}

However, longer follow up showed reduced overall survival in the 2 cm margins group, although this fell just short of reaching statistical significance.\textsuperscript{70} The results of a randomized trial with 3 cm margins showed significantly increased rates of locoregional recurrence in patients treated with 1 cm margins, and a reduction in melanoma–specific survival, again just short of significance, although no difference in overall survival.\textsuperscript{71} The significance of this is unclear, and the 2 vs. 4 cm and 1 vs. 3 cm trials cannot be directly compared. Until the resulting uncertainty is resolved, which may not happen as the number of patients required to detect a difference between 2 and 3 cm margins is considerable, the default position should be to minimize locoregional and distant metastatic risk. Therefore a minimum 2 cm margin is required in this group, although 3 cm margins are equally appropriate. The final decision will be determined by anatomical site, need for skin grafting, MDT review, and after discussion with an informed patient (Level Ib, Grade A).

7.79 Melanoma greater than 4 mm in thickness
The risk of locoregional and distant metastasis is 50% or more in this group. None the less, the same surgical objectives apply to minimize locoregional and distant metastatic risk. There is only one randomized study which includes melanomas thicker than 4 mm.\textsuperscript{71} This trial compared 1 cm with 3 cm margins. The results show a significant increase in locoregional recurrence when 1 cm margins are used, and a reduction in melanoma–specific
survival just short of significance, although no difference in overall survival. As there are no data that margins smaller than 3 cm are as effective, the evidence suggests 3 cm margins for this group. There is no evidence that margins > 3 cm are required. The final decision will be determined by anatomical site, need for skin grafting, MDT review, and after discussion with an informed patient (Level Ib, Grade B).

Recommended surgical excision margins are summarized in Table 7.

### Table 7 Recommended surgical excision margins

<table>
<thead>
<tr>
<th>Breslow thickness</th>
<th>Excision margins</th>
<th>Level of evidence</th>
<th>Grading of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>In situ</td>
<td>5-mm margins to achieve complete histological excision</td>
<td>III</td>
<td>B</td>
</tr>
<tr>
<td>&lt; 1 mm</td>
<td>1 cm</td>
<td>I b</td>
<td>A</td>
</tr>
<tr>
<td>1.01–2 mm</td>
<td>1–2 cm</td>
<td>I b</td>
<td>A</td>
</tr>
<tr>
<td>2.1–4 mm</td>
<td>2–3 cm</td>
<td>I b</td>
<td>A</td>
</tr>
<tr>
<td>&gt; 4 mm</td>
<td>3 cm</td>
<td>I b</td>
<td>B</td>
</tr>
</tbody>
</table>

#### 7.791 Management of lymph node basins

Investigation and management of lymph node basins in melanoma patients should be carried out by SSMDTs so that surgical treatment planning and investigations can run in parallel.

There is no place for elective LND in the management of primary melanoma unless this is unavoidable because the primary melanoma lies over the lymph node basin (Level Ib, Grade A). Patients should have access to a skin cancer specialist nurse when relapse is suspected.

#### 7.792 Clinically node-negative patients

SLNB was developed as a means of identifying the first lymph node draining the skin in which the melanoma arises. The procedure is carried out at the same time as definitive wider excision of the primary melanoma. SLNB gives information about prognosis, and is increasingly used in conjunction with adjuvant therapy clinical trials.

Patients with melanoma of Breslow thickness 1.2–3.5 mm and a positive SLNB have a 75% 5–year survival compared with 90% if the SLNB is negative. SLNB is normally considered for patients with melanoma ≥ 1 mm, when about 20% are positive; however, the risk of a positive SLNB in a melanoma < 1.0 mm is still 5%. The procedure is associated with 5% morbidity, which is less than that seen with complete nodal dissection. In patients with a positive SLNB, 20% have pathological evidence of metastases in additional regional nodes. Patients with a positive SLNB usually choose to proceed to completion lymphadenectomy. In about 5% it is not possible to identify the sentinel node either on lymphoscintigraphy, at surgery, or both. Patients should be aware of
this limitation. The relevance of increasingly detailed evaluation of the sentinel node and its correlation with prognosis remains to be defined.\textsuperscript{88} MSLT-1 showed no overall 5-year survival benefit following SLNB and completion lymphadenectomy, and it is unclear whether SLNB improves local control of lymph node basins.\textsuperscript{85,86} A final report with longer follow up is awaited.

Recommendations for the management of clinically node negative patients are summarized in Table 8.

Table 8 Recommendations for the management of clinically node negative patients

- There is no role for elective lymph node dissection (Level I, Grade E)
- SLNB can be considered in stage IB melanoma and upwards in Specialised Skin Cancer Multidisciplinary Teams (Level Ia, Grade A)
- Patients should be introduced to the concept of SLNB as a staging procedure but should also understand that it has no proven therapeutic value
- Surgical risks of SLNB, the possibility of failure to find a sentinel lymph node, and of a false-negative result, should also be explained

SLNB, sentinel lymph node biopsy.

7.8 Management of Patients with Clinically or Radiologically Suspicious Lymph Nodes

Fine needle aspiration cytology (FNAC) of nodes is recommended when there is clinical doubt about the significance of the nodes. If there is a negative FNAC result but ongoing suspicion, then the FNAC should be repeated or an image guided core biopsy arranged. Open biopsy is recommended when there is clinical suspicion even in the presence of negative FNACs in which lymphocytes have been successfully aspirated. If open biopsy is performed, the incision must be such as to allow subsequent complete formal block dissection of the regional nodes without compromise. It should be done only by SSMDT members.\textsuperscript{5}

Exploration or removal of a mass within a nodal basin which drains a known primary melanoma site, and prior to definitive surgical treatment, may increase the risk of melanoma recurrence in that basin.\textsuperscript{89} Any melanoma patient who develops a mass in a nodal basin should be referred urgently to the SSMDT, and without prior investigation, for investigation and treatment planning (Level III, Grade B).
7.9 Management of Patients with Confirmed Positive Lymph Node Metastasis

Radical lymph node dissections (LND) should be performed only by SSMDT members who do a combined minimum of 15 axillary and groin block dissections for skin cancer each year.5,90

Preoperative staging investigations should be carried out as already discussed for stage III melanoma. If such staging is not feasible prior to surgery, and surgery is considered necessary even if distant metastatic disease were to be detected, then a chest X-ray and LDH measurement is recommended.

The block dissection specimen should be marked and orientated for the pathologist. Axillary LND for melanoma should include all nodes in levels I–III, and this may require either resection or division of pectoralis minor. The management of inguinal lymph node metastases is controversial. Between 30% and 44% of patients with clinically involved superficial inguinal nodes will have involved pelvic nodes, and the risk increases with the number of involved superficial nodes.91–97

If Cloquet’s node is positive the risk of pelvic node involvement ranges from 44% to 90%.93,96,97 There is no reported increased morbidity associated with combined pelvic and superficial node dissection.94 Following ilioinguinal dissection for palpable inguinal disease 5-year survival varies with extent of pelvic involvement: 49% with one pelvic node, 28% with two to three nodes, and 7% with more than three nodes.97–100

A superficial inguinal LND should be considered in the presence of:
- A single clinically involved inguinal node or femoral triangle node
- A single positive superficial inguinal sentinel node (Level Ib, Grade A).

A pelvic lymph node dissection should be considered in the presence of:
- More than one clinically palpable inguinal and/or femoral triangle node/s
- CT or ultrasound evidence of more than one inguinal and/or femoral triangle node/s, or of pelvic node involvement
- More than one microscopically involved node at SLNB
- A conglomerate of inguinal or femoral triangle lymph nodes
- Microscopic or macroscopic involvement of Cloquet’s node (Level III, Grade B).

Cervical nodal recurrence should be treated either by surgeons in the SSMDT specializing in head and neck skin cancer including melanoma or by a head and neck MDT with a special interest in melanoma.5 A comprehensive, and not a selective, neck dissection should be performed (Level III, Grade A).

The term ‘comprehensive’ allows either:
- A radical dissection of levels 1–5
• Modified radical – the above, sparing spinal accessory nerve, internal jugular vein and sternocleidomastoid muscle
• Extended radical – radical dissection including parotid and/or posterior occipital chain.

The risk of further locoregional recurrence is 16–32% despite comprehensive surgery.101,102

7.10 Locoregional Recurrent Melanoma: Skin and Soft tissues

Surgery is the treatment of choice for single local or regional metastases. Excision should be clinically and histologically complete, but a wide margin is not required. Multiple small (< 1 cm) dermal lesions respond well to treatment with the CO2 laser.103 Dermal disease which is progressing despite surgery or laser, and subcutaneous or deeper limb metastases, should be considered for regional chemotherapy with isolated limb infusion (ILI) with melphalan and actinomycin D, or with isolated limb perfusion (ILP)104,105 (Level IIb, Grade B).

ILI is less invasive than ILP, and can be more easily repeated, but may be less effective.105 ILI is suitable for patients with low volume (< 5 cm) disease and those with comorbidities which prevent ILP.

Patients with bulky disease (> 5 cm) may be more likely to benefit from ILP using melphalan with tumour necrosis factor (TNF), but a recent trial comparing this combination with melphalan alone did not confirm additional benefit from adding TNF.106 Radiotherapy may be considered for disease which cannot otherwise be controlled. Selected patients suitable for ILI/ILP should be referred to specialized centres. The role of electrochemotherapy using intralesional or systemic bleomycin is still being evaluated. Recommendations for locoregional recurrent melanoma are given in Table 9.

Table 9 Recommendations for locoregional recurrent melanoma

| Nodes clinically suspicious for melanoma should be sampled using fine needle aspiration cytology (FNAC) prior to carrying out formal block dissection. If FNAC is negative although lymphocytes were seen, a core or open biopsy should be performed if suspicion remains (Level III, Grade B) |
| Prior to lymph node dissection, performed by an expert, staging by computed tomographic scan should be carried out other than where this would mean undue delay (Level III, Grade B) |
| The treatment of locoregional recurrence in a limb is palliative. Surgical excision, CO2 laser, or isolated limb infusion or perfusion may be considered (Level IIb, Grade B) |

7.101 Adjuvant therapy
There is no evidence of a survival benefit for adjuvant chemotherapy in patients with melanoma. This includes adjuvant regional chemotherapy using ILP, and therefore ILI. Interferon has been evaluated in low-, intermediate- and high-risk patients using various doses and schedules. A recent individual patient data meta-analysis concluded that interferon was associated with a significant impact on relapse-free survival and a small effect on overall survival (5-year survival benefit 3%, \( P < 0.05 \)). However, the benefit was seen across all interferon regimens, and was greatest in those with ulcerated melanomas. There was no clear indication as to optimum dose or duration. The results are awaited of further analysis including more recent data. Interferon is not recommended as standard of care for adjuvant therapy of primary or stage III melanoma (Level Ia, Grade A). This is because its effect on disease-free survival is of uncertain clinical relevance, and although overall survival is improved in meta-analysis, the effect is small and is associated with significant drug toxicity. Prospective studies are required to establish whether a subset of patients who derive most benefit can be identified.

Clinical trials of adjuvant melanoma vaccines have not so far been successful. Patients should be offered entry into adjuvant clinical trials approved by the local Cancer Network. They should have access to a melanoma specialist who is conversant with current melanoma adjuvant trials, and who is able to ensure their access to such studies. Details may be found on the websites of the National Cancer Research Network and the European Organization for Research and Treatment of Cancer.

7.102 Adjuvant radiotherapy
The Tasmanian Radiation Oncology Group has completed a randomized study of adjuvant radiotherapy to dissected nodal basins, 48 Gy in 20 fractions, in 250 patients with a high (> 25%) risk of local recurrence following lymphadenectomy. Eligible patients had \( \geq 1 \) parotid, \( \geq 2 \) cervical or axillary or \( \geq 3 \) groin nodes, or extranodal spread of tumour, or node diameter \( \geq 3 \) cm in neck or axilla or \( \geq 4 \) cm in the groin. Interim results show a 15% improvement in local control following radiotherapy, but there was no effect on overall survival. There are no data yet on morbidity following this treatment, and so at present the risk: benefit of adjuvant radiotherapy is unclear.

If there is clinical or histological doubt about the adequacy of surgery following recurrence, or about the feasibility of salvage surgery, adjuvant radiotherapy may be considered by the SSMDT (Level Ib, Grade B).

7.11 Occult primary melanoma
Patients with occult primary melanoma may present with a solitary metastasis, lymph node disease, or systemic disease. Such patients should be referred promptly to the SSMDT for investigation and treatment planning. All patients should have a thorough examination of the skin. Occult primary uveal tract melanoma nearly always causes liver metastases before these are apparent at other sites; searching for a uveal tract primary in a patient with occult nodal disease is not appropriate. For patients presenting with inguinal lymphadenopathy,
examination of the genital and urinary tracts and anorectum is especially relevant. All patients should be staged with CT scans of head, chest, abdomen and pelvis. Various reports from institution-based series suggest that patients presenting with stage III disease from an unknown primary have a better prognosis than patients with a similar stage and a known primary. One published series suggested a survival advantage in patients with stage IV disease from an unknown primary compared with those with a declared primary.

Patients presenting with lymph node disease from an occult primary involving a single lymph node basin should be presumed to have regional rather than distant metastasis, and treated as for stage III disease with lymph node block dissection.

### 7.1.2 Metastatic disease

All patients should have access to a skin cancer clinical nurse specialist and a palliative care team providing expertise in symptom control and psychosocial support. Links should be made with community cancer support networks as soon as possible. All patients with metastatic disease should have access to an oncologist specializing in melanoma for management advice.

Selected patients who relapse with oligometastatic disease may benefit from metastatectomy. Although this has not been evaluated in a prospective randomized trial, median survival of 21 months for selected surgically treated patients has been reported. (Level IIb, Grade B).

No systemic therapy has been shown to extend survival significantly. Dacarbazine is standard chemotherapy outside a clinical trial, although its benefits are limited, and it is ineffective in brain metastases (Level IIa, Grade C).

The oral dacarbazine derivative temozolomide has greater central nervous system (CNS) penetration but has not shown significant clinical advantages over dacarbazine in two multicentre clinical trials. Biochemotherapy (the addition of biologically active agents such as interferon–α and interleukin–2 to chemotherapy) increases response rates and toxicity but does not significantly increase overall survival. The same is true for combination chemotherapy, and so this is not recommended other than in highly selected patients in whom palliation is dependent upon maximizing response in symptomatic deposits. High-dose interleukin–2 has not been evaluated in a randomized phase III trial although a small minority of patients may experience durable complete responses.

Patients with elevated LDH have a reduced likelihood of benefiting from currently available systemic treatment. Given the limited benefits with standard systemic therapy, all patients with metastatic melanoma should be considered for entry into clinical trials of novel therapies.
Patients with CNS metastases have a poor prognosis. Surgery or stereotactic radiotherapy should be considered for selected patients with limited disease.114,115,124–126 The benefits of treating patients with cerebral metastases with whole-brain radiotherapy are limited, but this may sometimes have palliative value. Supportive care is therefore the most appropriate strategy for many patients (Level IIb, Grade B).

Spinal cord compression should be treated surgically if feasible, but multiple sites of disease, poor prognosis and poor performance status may make this inappropriate. Radiotherapy may be useful for palliation of rapidly enlarging or painful metastases involving soft tissues and bones (Level IIb, Grade B). Recommendations for metastatic disease are shown in Table 10.

### Table 10 Recommendations for metastatic disease

- All patients should be managed by Specialist Skin Cancer Multidisciplinary Teams\(^5\)
- Surgery should be considered for oligometastatic disease at sites such as the skin, brain or bowel (Level IIb, Grade B), or to prevent pain or ulceration
- Radiotherapy may have a palliative role in the treatment of metastases (Level II, Grade B)
- Standard chemotherapy is dacarbazine although its role is palliative (Level II, Grade C)
- Patients with stage IV melanoma should be considered for entry to clinical trials

### 7.13 Melanoma, Hormone Replacement Therapy and Pregnancy

There is no evidence that melanoma at or near the time of pregnancy adversely affects the prognosis, but the data are limited.127 The Breslow thickness, site and presence of ulceration are still the key determinants of outcome, and are not different from a control population 128, (level III).

The outcomes of pregnancy for both mother and baby are not worsened (Level IIa).128,129 Surgical treatment should be determined in the normal way, but the risks of exposure to ionizing radiation and blue dye during sentinel node biopsy will need special consideration. There is no medical reason to justify delaying conception after a diagnosis of melanoma (Level IIa) but the social and family effects of developing recurrent melanoma during pregnancy or after birth are great.127,130 It is proper therefore to counsel a woman in the reproductive age range about her risk of recurrence over time so that she and her partner can make their decision about conception with adequate information. These social or family considerations may also be relevant to a male patient whose partner is pregnant or if he and his partner are considering a pregnancy. There is no evidence that the use of the oral contraceptive pill plays any role in the natural history of melanoma (Level Ia).130–133 Decisions about use of the contraceptive pill should be made on the basis of health issues other than melanoma.
There is no evidence that hormone replacement therapy plays any role in the natural history of melanoma,\textsuperscript{130,132} neither does it worsen prognosis in stage I and II melanoma (Level IIa).\textsuperscript{133} Decisions about use of hormone replacement therapy should be made on the basis of health issues other than melanoma.

In pregnancy, staging using X-rays should be avoided where possible especially in the first trimester. MRI should be used in preference to CT scan, where feasible. Because chemotherapy does not have a survival benefit in stage IV disease its use in pregnancy requires careful discussion. Use of chemotherapy agents in the first trimester should be avoided. There are case reports of the successful birth of normal babies who were exposed to dacarbazine in utero later in pregnancy, but this does not exclude later toxicity. Melanoma can metastasize to the placenta and to the fetus more frequently than any other solid tumour. This has a poor prognosis for both mother and baby. At delivery in patients with stage IV melanoma the placenta should be examined for melanoma.

Recommendations regarding pregnancy and hormone replacement therapy are summarized in Table 11.

**Table 11 Recommendations regarding hormone replacement therapy and pregnancy**

<table>
<thead>
<tr>
<th>Pregnancy with primary melanoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No worsening of prognosis</td>
</tr>
<tr>
<td>• No increase in adverse outcomes for mother or baby</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pregnancy in advanced melanoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Placental and fetal metastases possible in stage IV disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral contraceptives and melanoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No increased risk of melanoma</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hormone replacement therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No increased risk of melanoma</td>
</tr>
<tr>
<td>• No worsening of prognosis</td>
</tr>
</tbody>
</table>

### 7.131 Use of drugs in melanoma patients

There are theoretical reasons to suggest that L-DOPA may have an adverse effect on patients with melanoma. There are no data to support this idea, however, and such an association seems unlikely.\textsuperscript{134} The use of immunosuppressants after melanoma is a cause for concern. The results of a recent cohort study of patients with rheumatoid arthritis treated with biologic agents showed an increased risk of melanoma (odds ratio 2.3, 95% confidence interval 0.9–5.4).\textsuperscript{135} However, there is usually little that can be done to avoid these drugs without an unacceptable loss of quality of life. Their use after treatment of primary or secondary melanoma should be discussed between the prescribing doctors and patients, and the decision to continue their use and their dosage should be subject to ongoing review following a diagnosis of melanoma (Level III, Grade C).
7.132 Organ and blood donation
The decision about whether organs or tissue are suitable for transplant is made on an individualized basis, taking into account the patient's medical history. A melanoma patient would not normally be considered as a donor.

7.14 Follow-up
See also section on Post Treatment Follow Up, Chapter 9 of this document

Table 12 Follow up for melanoma

- Patients with in situ melanomas do not require follow up
- Patients with invasive melanomas have differing risk of relapse according to their stage group
- Patients with stage I A melanoma should be seen two to four times over up to 12 months, then discharged
- Patients with stage IB–IIIA melanoma should be seen 3-monthly for 3 years, then 6-monthly to 5 years
- Patients with stage IIIB and IIIC and resected stage IV melanoma should be seen 3-monthly for 3 years, then 6-monthly to 5 years, then annually to 10 years
- Patients with unresectable stage IV melanoma are seen according to need
(Level III, Grade B)

Appendix 1 Strength of recommendations and quality of evidence (a)
See Chapter 4 of these guidelines

Definition of the levels of evidence used in preparation of these guidelines

<table>
<thead>
<tr>
<th>Level</th>
<th>Type of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>Evidence obtained from meta-analysis of randomized controlled trials, or meta-analysis of epidemiological studies</td>
</tr>
<tr>
<td>Ib</td>
<td>Evidence obtained from at least one randomized controlled trial</td>
</tr>
<tr>
<td>IIa</td>
<td>Evidence obtained from at least one well-designed controlled study without randomization</td>
</tr>
<tr>
<td>IIb</td>
<td>Evidence obtained from at least one other type of well-designed quasi-experimental study</td>
</tr>
<tr>
<td>III</td>
<td>Evidence obtained from well-designed nonexperimental descriptive studies, such as comparative studies, correlation studies and case studies</td>
</tr>
<tr>
<td>IV</td>
<td>Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities</td>
</tr>
<tr>
<td>Grade of recommendation</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>There is good evidence to support the use of the procedure</td>
</tr>
<tr>
<td>B</td>
<td>There is fair evidence to support the use of the procedure</td>
</tr>
<tr>
<td>C</td>
<td>There is poor evidence to support the use of the procedure</td>
</tr>
<tr>
<td>D</td>
<td>There is fair evidence to support the rejection of the use of the procedure</td>
</tr>
<tr>
<td>E</td>
<td>There is good evidence to support the rejection of the use of the procedure</td>
</tr>
</tbody>
</table>

For Full BAD Guideline / references for Malignant Melanoma please see their website guidelines page, scroll down to Malignant Melanoma
(Press control and click on the link below)
8. Treatment Algorithm & Regimens

8.1 Treatment Algorithm for Malignant Melanoma

Unresectable stage III C or stage IV Melanoma

- No
  - BRAF V600E mutation Positive
    - Yes
      - Vemurafenib (CDF)
    - No
      - High Dose Interferon Alfa-2b (Intron-A)
        - Disease Progression
          - Ipilimumab
            - Not fit for Ipilimumab (CDF)
        - Disease Progression
          - Carboplatin & paclitaxel
            - Not fit for Ipilimumab

See National Institute for Health and Clinical Excellence Improving Outcomes for People with Skin Tumours including Melanoma, February 2006. Available at: (please press control and click on the link)

8.2 Chemotherapy Clinical Expert Group Regimen for Malignant Melanoma

The current regimen can be found on the NEYHCA website

http://www.hyccn.nhs.uk/NetworkGuidelinesAndPublications/ChemotherapyAndPharmacy.html


Each patient should be reviewed as an individual case. These recommendations are guidelines only, and Doctors should use their discretion to adapt them where necessary.

Elderly and frail patients who have difficulty attending appointments could be referred back to their G.P.

<table>
<thead>
<tr>
<th>Malignant Melanoma</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma In Situ</td>
<td>Discharge at 1st FU unless clinical concern</td>
</tr>
<tr>
<td>Lentigo Maligna</td>
<td>1 year clinical FU then discharge</td>
</tr>
<tr>
<td><strong>Invasive</strong></td>
<td></td>
</tr>
<tr>
<td>Stage Ia</td>
<td>1 year clinical FU then discharge (2–4 OPA)</td>
</tr>
<tr>
<td>Stage Ib – IIIA</td>
<td>3 monthly for 3 years; then 6 monthly for 2 years (total 5 years)</td>
</tr>
</tbody>
</table>
Stage IIB, IIIC | 3 monthly for 3 years; then

& resected IV | 6 Monthly For 2 Years; then annually for 5 years (total 10 years)

N.B. All Stage IIB and above to be referred to the Combined Melanoma Clinic

- Patients with atypical mole syndrome and giant congenital pigmented naevi require long term follow up by an appropriate specialist
- There are no data contraindicating the use of HRT or OCP after melanoma
- The risk of subsequent pregnancy on outcome from melanoma is not known
- Patients with primary melanoma >1mm or any ulcerated MM should be offered SLNB

### Squamous Cell Carcinoma

<table>
<thead>
<tr>
<th>Complete Excision</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2mm thick</td>
</tr>
<tr>
<td><strong>Except</strong> Lip &amp; ear SCC &lt;2mm</td>
</tr>
<tr>
<td>&gt;2mm thick</td>
</tr>
</tbody>
</table>

- Observation for recurrence may be undertaken by the specialist, primary care physician or by patient self examination depending upon the disease risk, local facilities and interests

### Basal Cell Carcinoma

<table>
<thead>
<tr>
<th>Complete Excision</th>
<th>Discharge upon reporting of histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent / high risk areas</td>
<td>6 monthly for 1 year; then annually for 4 years (total 5 years)</td>
</tr>
</tbody>
</table>

- FU of incompletely excised BCCs being monitored clinically - as for recurrent BCCs

#### 9.1 Educating patients for self-examination

As part of Sun Awareness, the British Association of Dermatologists can provide a range of leaflets and posters (see below). Leaflets about the different types of skin cancer are also available (see 'Basal Cell Carcinoma', 'Squamous Cell Carcinoma' and 'Melanoma' in the Patient Information and Leaflets section on their website
Examples of information can be found on the BAD website. These topics are to be discussed fully with the patient. (Please press control and click on the links below)

www.bad.org.uk

Patient information and leaflets

http://www.bad.org.uk/site/578/default.aspx
10. Patient Information

10.1 General Guidance

"A higher priority should be placed on improving information for patients, face-to-face communication with health professionals and co-ordination and continuity of care. We also need to do more to support patients through their survivorship."

Cancer Reform Strategy 2007

Patients should be offered a permanent record or summary of all consultations at which their treatment options are discussed, this should include clear verbal and written information about the following:

- The disease (on diagnosis)
- The nature and implications of diagnosis (where appropriate).
- The treatment options, and their effects (positive and adverse)
- Assessment of the outcome, and information on symptoms which may signify recurrence
- Relevant follow up (discharge) arrangements
- Information on patient involvement groups and support groups, including AHP support.
- If necessary, the patient should be offered a tape of their consultation

MDTs should be involved in patient exercises, in conjunction with Peer Review measures, to ascertain if patients have been offered:

- A key worker
- Information for patients and carers (written or otherwise)
- The opportunity of a permanent record or summary of consultation at which their treatment options were discussed

These exercises should be presented and discussed at MDT meetings, the teams should implement actions resulting from their findings.

Patient Information from National Information Pathways and local information meeting National Standards should be made available to all patients.

Information should be available in languages and formats understandable by relevant local minority groups including; ethnic groups, those with alternative sexuality, and people with disabilities.

Information offered should be appropriate to the patients’ needs at that point in their patient journey, (e.g. type of lesion, type of treatment, local services and any choice within them) and should be offered at all stages of the patient pathway. It should cover both
physical and psychosocial issues. The information offered and given should be recorded in the patient notes.

Patient Information should include names and contact details of key personnel involved in the patient's care. Upon diagnosis, every patient should be given the contact details of a key worker in line with local Key Worker Policy. A chemotherapy or oncology nurse should be available to advise, inform and support patients needing chemotherapy or radiotherapy.

Patients should have access to a team of professionals who have been trained in advanced communication skills. Emotional support should be available to the patient at any stage in their pathway of care.

Patients should be encouraged to bring someone with them to provide support at diagnostic clinics / appointments at which distressing news may be communicated.

Patients should be given time and support to reflect on their treatment options before having to make a decision.

The service should have defined access to social workers, Allied Health professionals, chaplains, pain control and palliative care professionals, whether provided by hospital staff, the Hospices or within the Trust by the Special Palliative Care Team. Services should also aim to develop access to a range of psychological support and appropriate complimentary therapies.

Carers have a key role in supporting patients and may need information to enable them to fulfill this role optimally. However, patient-specific information should only be provided to carers within the context of protecting patient confidentiality and with the patient's consent.

Patient Information Pathway – details can be found on the NEYHCA (Cancer) website (Includes Social Care & Benefit Advice in the Local Service Directory).

10.2 Patient Information & Support Groups

Patient Involvement Groups / Self Help Group information and patient pathway information can be found on the NEYHCA website and in the Local Service Directory (Includes Social Care & Benefit Advice)

Support Groups details can be found below and on the NEYHCA (Cancer) website / Local Service Directory.

10.3 CNS Contact Details
## CNS Contact Details

<table>
<thead>
<tr>
<th>Name</th>
<th>Hospital</th>
<th>Telephone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharon Edwards</td>
<td>Castle Hill Hospital, Castle Road, Cottingham East Yorkshire, HU16 5JQ</td>
<td>Bleep Switchboard 01482 875875</td>
</tr>
<tr>
<td>Pam Burkitt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jill Ramsay</td>
<td>Diana Princess of Wales Hospital, Scartho Rd Grimsby, N E Lincs, DN33 2BA</td>
<td>01472 874111</td>
</tr>
<tr>
<td></td>
<td>Scunthorpe General Hospital, Cliff Gardens Scunthorpe, North Lincs, DN15 7BH</td>
<td>01724 282282</td>
</tr>
<tr>
<td>Janet Parish</td>
<td>Scarborough &amp; NE Yorkshire Hospitals NHS Trust, Woodlands Drive, Scarborough, North Yorkshire YO12 6QL</td>
<td>01723 368111</td>
</tr>
</tbody>
</table>
• Hospital–based Palliative CNS Specialists
• GP Macmillan Facilitators
• Macmillan Day Care
• Chaplain / spiritual worker

Hull – details

Hospital Macmillan Specialist Palliative Care Team
Based at the Queens centre for oncology at Castle Hill Hospital.

The Hospital Macmillan Palliative Care Team can be contacted on 01482 461146. The team has a web site on the Hull and East Yorkshire Hospitals Trust intranet site.

Referrals should be made by completing the form available on the web site, and faxing it to the Palliative care team on 01482 461148.

Hull Community Macmillan Team
Westbourne NHS Centre, 81 Westbourne Ave, Hull, HU5 3HP
Telephone: 01482 335883
Fax: 10482 335496
The referral forms can be downloaded from the Palliative care team web site on the HEYHT intranet site, and should be faxed to the team on the above number.
For Hull patients liaise with the Clinical Nurse Specialist on 01482 607831.

East Riding Community Macmillan Team (East)
Alfred Bean Hospital, Bridlington Rd, Driffield, YO25 7JR
Telephone: (Main number) 01482 677436 Telephone (Office) 01377 208758
Fax: 01377 208741
Referral forms for the East Riding Macmillan team are available on the palliative care team web site on the HEYHT intranet site. These should be downloaded and faxed over to the Macmillan team.

East Riding Community Macmillan Team (West–Hessle, Cottingham, Anlaby and Beverley)
Brough Primary Care Centre, 4 Centurion Way, Welton Rd, Brough HU15 1BH
Tel: 01482 668 668
Fax: 01482 665 090
Elaine Smith: Macmillan Clinical Nurse Specialist Tel: 01482 336805 Fax: 01482 335014

Hospice
Dr Ben Zylicz, Consultant in Palliative Medicine
Dove House Hospice, Chamberlain Rd, Hull, HU8 8DH
Telephone: 01482 784343
11.2 Northern Lincolnshire & Goole Area

11.21 Grimsby

- St Andrew’s Hospice (In Patients / Day Care / Lymphoedema / out of hours for North East Lincs)
- Community Palliative Care Macmillan / CNS (All CCGs)
- AHP services
- Palliative Care Consultant
- Hospital-based Palliative Care Macmillan / CNS
- Marie Curie Nurses – home nursing
- Lead GP x 2 / Nurse in Palliative Care
- GP Macmillan Facilitator
- Out of Hours Sitting Service
- Chaplain / spiritual worker

Grimsby – details

Hospice
St Andrew’s Hospice, Peaks Lane, Grimsby, DN32 9RP
General Enquiries: (01472) 350908
General Fax: (01472) 251765
Clinical fax: (01472) 359525
Web address: www.standrewshospice.com

Grimsby Community Macmillan Team
Based at St Andrew’s hospice–address as above
Tel: 01472 250623–any referrals for hospital or community can come via this number.
Fax: 01472 250387
The team covers all of Grimsby
For patients at Grimsby Hospital Bleep Tel: 01472 874111 Bleep 270

Louth Community Macmillan Team
Marisco Health Centre, Stanley Ave, Mablethorpe, LN12 1DP
Tel: 01507 474113
Fax: 01507 474196
11.22 Scunthorpe
- Lindsey Lodge Hospice. (In Patients / Day Care / Lymphoedema / Breathlessness Clinic)
- Community Palliative Care Lead GP / CNS (All CCGs)
- AHP services
- Hospital based Palliative Care Macmillan / CNS
- Specialist Palliative Care Social Worker
- Dedicated Occupational Therapy Service
- Dedicated Dietician
- Dedicated Pharmacist
- Marie Curie Nursing – North Linscs
- Chaplain / spiritual worker

Scunthorpe – details
Hospice
Dr Ann Morris, Medical Director
Lindsey Lodge Hospice, Burringham Road, Scunthorpe, North Lincolnshire, DN17 2AA
Switchboard & Patient enquiries
Tel: 01724 270835
Fax: 01724 271548
Website: www.lindseylodgehospice.org.uk
Email: enquiries@lindseylodgehospice.org

Macmillan palliative care nurses
Scunthorpe Hospital Macmillan Nurses in Palliative Care Tel: 01724 387709 Fax: 01724 388709

Discharge Planning Liaison Team
Scunthorpe General Hospital 01724 282282 extension 2100
The team will get involved in supporting patients who have complex discharge needs who are transferred back from HEYHT to Scunthorpe for ongoing care and require discharge home or to a suitable place of care

North Lincolnshire
Scunthorpe Community Macmillan Palliative Care Team
Tel: 01724 871556 Fax: 01724 871557
Goole Community Macmillan Palliative Care Team
June Graham
The Health Centre
Woodland Avenue, Goole, East Yorkshire, DN14 6RU
Tel No: 01405 764755 Fax No: 01405 752996

Scunthorpe Occupational therapy
Horkstow House, Brumby Resource Centre, East Common Lane
Scunthorpe, DN16 1QQ
01724 298 206

11.3 Scarborough, Bridlington & York

11.31 Scarborough

- St Catherine’s Hospice (In Patients / Day Care / Lymphoedema)
- Palliative Care Consultant / out patient clinic
- Community Palliative Care Macmillan / CNS (All CCGs)
- AHP services
- Hospital–based Palliative Care Macmillan / CNS (Scarborough District General Hospital)
- GP Macmillan Facilitator
- Marie Curie Nursing
- Bereavement Support Services
- Chaplain / spiritual worker

Scarborough – details
Hospice
Palliative care consultant: Dr Colin Campbell
St Catherine’s Hospice, Thro xenby Lane, Scarborough, North Yorkshire, YO12 5RE
Tel: 01723 351421
Fax: 01723 356033
Email: general@st-catherineshospice.org.uk
Web address: www.stcatherineshospice-nyorks.org
Registered No: 1627610 – Charity Registration No: 284701

Macmillan palliative care nurses
Scarborough Community Macmillan Palliative Care Team
Based at St Catherine’s Hospice
Tel: 01723 351421
Fax: 01723 356032
11.32 Bridlington
- Macmillan Unit with 'GP' beds
- Neighbourhood Care Team (AHP services)
- Palliative Care Clinic
- Community Palliative Care CNS (All CCGs)
- Chaplain / spiritual worker

11.33 York
Hospice
St Leonard’s Hospice, 185 Tadcaster Road, York, YO24 1GL
Tel: +44 (0)1904 708553
Fax: +44 (0)1904 704337
E-mail: enquiries@stleonardshospice.org.uk Web address: www.stleonardshospice.org.uk

Macmillan palliative care nurses
Community Palliative care team
The Lodge, St Leonard’s hospice, Tadcaster Rd, York, YO24 1GL
Tel: 01904 724476
Fax: 01904 777049

Hospital palliative care team
Cancer Care Centre
York Hospitals NHS Trust, Wigginton Rd, York YO31 8HE
Tel: 01904 725835 Fax: 01904 726440

12. Audit & Research

12.1 Audit
Audit is a key part of improving patient care.

The minimum progress needed for the CEG's compliance with the measures is that the CEG, in consultation with the MDTs, agrees at least one audit project with the Cancer Management Group, with any necessary sources of funding agreed with commissioners or from elsewhere.
The individual MDTs, for compliance with the measures, should agree to participate in the audit. The MDT should annually review the progress of the project or present the results of the completed audit project to the CEG for discussion at one of their meetings.

All members of the multidisciplinary teams should attend regular audit meetings.

_The Manual for Cancer Services states that cancer sites which have standards based on Improving Outcomes Guidance (IOG), the parameters to be audited should be drawn from the “Measurement” sections of the relevant IOG._

The group should consider auditing practice against NEYHCA (Cancer) guidance and other National cancer guidelines as they are published.

**12.2 Nationally Co-ordinated Research**

Research within the NEYHCA (Cancer) is co-ordinated by Srdjan Ljubojevic, Cancer Research Network Manager

Humber & Yorkshire Coast Cancer Research Network (HYCCRN)
Sledmere House
Willerby Hill Business Park
Beverley Road
Willerby
HU10 6ED
Phone: 01482 336270
Fax: 01482 336288

The Clinical lead for the HYCCRN is Dr Anthony Maraveyas, Consultant Oncologist.

The Research Network Manager will notify the MDT of trials which are within the NCRN portfolio, both ongoing and new. This will include most non-commercial phase III – IV clinical trials, NCRN approved commercial trials and some phase II studies

**12.3 Local Research**

NEYHCA (Cancer) is committed to high quality research. The number of clinical trials for patients with Skin cancers are low, but when trials are available suitable patients will be entered into the trials
• Skin related tumours remain formidable treatment challenges and treatments can only improve with research. All patients managed by the Skin MDTs should be considered for both local and national research studies.
• Specialist Centre / Localities should be encouraged to participate in surgical and non-surgical randomised controlled trials, particularly national trials. Primary Care Trusts should endeavour to secure the provision of additional resources needed to participate in clinical trials.
• The CEG should regularly receive reports regarding accrual of patients into trials and at least annually should receive and discuss a report from each of the MDTs in response to the CEG approved trials list.
• Any remedial actions required following these reports should be agreed by the CEG, MDT and the Clinical Lead for the Research Network.
• There should be a single list of clinical trials and/or studies into which the MDTs should give priority for patient entry.
• Each MDT should nominate a named member responsible for ensuring that recruitment into trials / research is integrated into the function of the MDT.
• The MDT must provide a written response to the CEG clinical trials list & agree to carry out recruitment and remedial actions to assist recruitment.

12.4 Minimum Dataset & Collection Policy

• A minimum dataset and collection policy should be agreed across NEYHCA (Cancer)
• The dataset should collected in an electronically retrievable form
• A data manager/MDT Co–ordinator should be employed to collect the agreed minimum dataset. A record of all patients with known or suspected Brain & CNS cancers should be kept. All patients with known or suspected Brain & CNS cancers should have details recorded.

A minimum dataset and collection policy has been agreed across NEYHCA (Cancer). The Skin CEG endorses the NEYHCA (Cancer) policy for cancer data collection and storage.

• All data items should be collected at the most appropriate point on the patient pathway.
• Provider Trust to agree locally the most appropriate personnel and systems for the collection and storage of the agreed minimum dataset.
• Collection of clinical data items will be supported by appropriate clinical input from core members of the MDT.
• Provider Trusts are responsible for the collection, storage and upload of data items in the Going Further on Cancer Waiting Times dataset.
• Action plans to be developed between NYCRIS and Acute Trust to determine the transition process between 2008 and 2011 for the collection and electronic submission of the cancer registry dataset.
• Data items should be stored appropriate an electronic format to allow upload into approved national systems and databases.
• Storage and transfer of patient identifiable information should adhere to all relevant National guidance and local Trust policies.
• Full details of the key points in this policy should be specified in the MDT key documents.

A Data Manager / MDT Co-ordinator have been employed to collect the agreed NEYHCA (Cancer) minimum dataset in agreement with the NEYHCA (Cancer) MDS collection policy. A record of all patients with known or suspected Skin cancers should be kept.

The CEG has agreed a policy with the MDTs specifying common priorities for data collection in line with national priorities e.g. cancer waiting times.

This policy is specified in the MDTs key documents.
• Which type of team should collect which portion of the MDS.
• When each data item should be captured on the patient pathway.
• How the data will be stored and managed within all appropriate local data systems.
### Appendix (i) Example 2 Week Referral Forms

#### 2 Week Wait

**HIGH RISK OF CANCER**

**HEYHT REFERRAL FORM FOR SUSPECTED SKIN CANCER** *(page 1 of 2)*

**Pleaase complete all sections and fax to 01482 675505**

**The Central Referral Point Telephone Number is 01482 604308**

<table>
<thead>
<tr>
<th><strong>PATIENT DETAILS</strong></th>
<th><strong>GP DETAILS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
<td><strong>Name:</strong></td>
</tr>
<tr>
<td><strong>D.O.B.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Address:</strong></td>
<td><strong>Address:</strong></td>
</tr>
<tr>
<td><strong>Post Code:</strong></td>
<td><strong>Post Code:</strong></td>
</tr>
<tr>
<td><strong>Tel No:</strong></td>
<td><strong>Tel No:</strong></td>
</tr>
<tr>
<td><strong>Hospital No.</strong></td>
<td><strong>Contact No:</strong> <em>(Direct line of person booking i.e. GP/Secretary/Receptionist)</em></td>
</tr>
<tr>
<td><strong>NHS No.</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is patient instructed to self book?</th>
<th>Y / N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact No:</td>
<td>Contact Time:</td>
</tr>
<tr>
<td>Is Language Line needed?</td>
<td>Y / N</td>
</tr>
</tbody>
</table>
AIM:
To see all suspected Malignant Melanomas & Squamous Cell carcinomas within two weeks of referral and arrange for their treatment within two weeks of consultation. Suspected Basal Cell Carcinomas should not be referred on this form. (I.e. they are not a part of the two week cancer wait).

IS THE PATIENT AWARE OF THE POTENTIAL DIAGNOSIS?  Y / N

SUSPECTED DIAGNOSIS (PLEASE TICK BOX)

DIAGNOSIS SUSPECTED:  Melanoma  
Squamous Cell Carcinoma

The categories stated below should be used as a guide to establish which department your patient should be referred to:

<table>
<thead>
<tr>
<th>PLASTIC SURGERY</th>
<th>DERMATOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Lesions, unable to close directly &gt; 1cm</td>
<td>Smaller lesions, direct closure after surgery possible &lt; 1cm</td>
</tr>
<tr>
<td>Lesions in cosmetically sensitive areas (e.g. face)</td>
<td>Lesions in cosmetically insensitive areas (e.g. Trunk)</td>
</tr>
<tr>
<td>Functionally difficult areas (e.g. Hands and Feet)</td>
<td>Areas where function not so important (e.g. Thigh)</td>
</tr>
<tr>
<td>Extension (Satellites, Regional &amp; Local recurrence)</td>
<td></td>
</tr>
</tbody>
</table>

This patient should be seen by a:

Plastic Surgeon  Dermatologist

**MEDICAL HISTORY / DRUGS / ALLERGIES / ANY OTHER COMMENTS:**

Signature of G.P................................................………Date of Referral: ………/………/………
URGENT “2 WEEK WAIT” CANCER REFERRAL

Fax to: Scarborough Hospital: 01723 342423 or relevant Fax Number as below
- Please also attach a letter to the Consultant
- Has the patient been informed of the reason for urgent referral? Yes ☐ No ☐
- Is the patient happy to be contacted by telephone at home? Yes ☐ No ☐
- Please indicate suspected cancer tumour site

<table>
<thead>
<tr>
<th>Breast</th>
<th>Gynaecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain &amp; CNS</td>
<td>Haematology</td>
</tr>
<tr>
<td>Childhood &amp; Young People</td>
<td>ENT</td>
</tr>
<tr>
<td>All patients under the age of 18 should be referred into this speciality regardless of suspected tumour site</td>
<td>Max Fax</td>
</tr>
<tr>
<td>Lower GI</td>
<td>Lung</td>
</tr>
<tr>
<td>Upper GI</td>
<td>Skin (not BCC – please see guidelines)</td>
</tr>
<tr>
<td>Urology</td>
<td>Sarcoma</td>
</tr>
<tr>
<td>If radiological imaging suggests suspicion of sarcoma please refer direct to Sarcoma Unit, Leeds</td>
<td></td>
</tr>
<tr>
<td>Frank Whitby Fax 01947 824399</td>
<td>Frank Bridlington Fax 01262 423290</td>
</tr>
<tr>
<td>Frank Malton Fax 01653 604503</td>
<td></td>
</tr>
</tbody>
</table>

**NECK LUMP Diagnostic and Assessment Clinic Hull**
Refer to Primary Care Referral Guidelines for Head & Neck Cancer / Thyroid Cancer, please use Hull pro forma
Fax 01482 675505

- Date of Decision to Refer ________________
- Does the referral meet the guideline criteria in the “Directory of Cancer Services: General Practitioners Two Week Wait Referral Guidelines?” Yes ☐ No ☐ If ‘No’ please complete the ‘comments’ section below

Comments

Patient Details
- Name: 
- Address: 
- Tele No: 
- Sex: Male ☐ Female ☐

Practice Details
- Referring Doctor
- Registered GP (if different to above)
- Practice
- Fax No:

This cover sheet will be stamped and returned by fax as confirmation of receipt

NHS Number: 
Hospital Unit No:

Please note that your patient may not be able to be seen by the consultant of your choice within the 14 days, but will be referred to another consultant in the speciality.
Does patient have one or more of the following referral criteria? Y/N

<table>
<thead>
<tr>
<th>Melanoma Characteristics</th>
<th>Enter Y if criteria applies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing size</td>
<td></td>
</tr>
<tr>
<td>Irregular outline</td>
<td></td>
</tr>
<tr>
<td>Change in colour</td>
<td></td>
</tr>
<tr>
<td>Ooze / crustiness</td>
<td></td>
</tr>
<tr>
<td>Local inflammatory response</td>
<td></td>
</tr>
<tr>
<td>Itching</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Enter Y if criteria applies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive family history</td>
<td></td>
</tr>
<tr>
<td>Multiple naevi</td>
<td></td>
</tr>
<tr>
<td>Fair skin/poor tanning</td>
<td></td>
</tr>
<tr>
<td>Excessive UV exposure</td>
<td></td>
</tr>
<tr>
<td>Immunosuppression</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SqCC Characteristics</th>
<th>Enter Y if criteria applies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crusting/non-healing lesion</td>
<td></td>
</tr>
<tr>
<td>Subcutaneous component</td>
<td></td>
</tr>
<tr>
<td>Documented expansion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Enter Y if criteria applies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged UV exposure</td>
<td></td>
</tr>
<tr>
<td>Immunosuppression</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suspected Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma □</td>
</tr>
<tr>
<td>Sq Cell □</td>
</tr>
</tbody>
</table>

If none of the above criteria apply, please describe why you suspect this patient may have cancer:

Significant Medical History/Drugs/Allergies/Other Comments
Appendix (ii) Squamous Cell Carcinoma & Melanoma Pathway

Suspected Cancer

Day 14

2WW Urgent Referral

FAST TRACK PHONE / FAX
Rapid access clinic/ excision

Histology

Diagnosis

Further investigations (including SNB)

Multi Disciplinary Team meeting
To include discussion of ALL melanomas, plus SCC and URGENT skin cancers.

Treatment action plan

Treatment which may include Surgery/ radiotherapy/ active

Follow up / Education / Counselling

Discharge / Follow Up – see Chapter 6 of these guidelines

No treatment

Cancer Not Suspected

Routine Referral

Routine Clinic

Excision biopsy

Histology

GP notified to refer to MDT

Support & Palliative
<table>
<thead>
<tr>
<th>Location</th>
<th>Arrangements for Specialist Care</th>
<th>Referring CCG / Population SSMDT</th>
<th>Referral Catchment Population</th>
<th>MDT Co-ordinators</th>
<th>Patient Trackers</th>
<th>Data Administrators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scarborough Hospital (LSMDT)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<tr>
<td><strong>Assura</strong></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>North Lincolnshire and Goole Foundation NHS Trust</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hull and East Yorkshire Hospitals NHS Trust</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Appendix (iv) Updated American Joint Committee (AJCC) Cancer Staging System for Melanoma

<table>
<thead>
<tr>
<th>AJCC Stage</th>
<th>TNM Classification</th>
<th>Breslow Depth</th>
<th>Ulceration</th>
<th>No. of Nodes</th>
<th>Survival Rate With Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIA</td>
<td>T1a N0 M0</td>
<td>≤ 1.0mm</td>
<td>No</td>
<td></td>
<td>1 Year: 95% 2 Year: 88%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 83% 10 Year: 79%</td>
</tr>
<tr>
<td>IIB</td>
<td>T1b N0 M0</td>
<td>&lt; 1.0mm</td>
<td>Yes</td>
<td></td>
<td>1 Year: 91% 2 Year: 83%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 89% 10 Year: 83%</td>
</tr>
<tr>
<td></td>
<td>T2a N0 M0</td>
<td>1.01 – 2.0mm</td>
<td>No</td>
<td></td>
<td>1 Year: 77% 2 Year: 79%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 79% 10 Year: 79%</td>
</tr>
<tr>
<td></td>
<td>T2b N0 M0</td>
<td>1.01 – 2.0mm</td>
<td>Yes</td>
<td></td>
<td>1 Year: 79% 2 Year: 84%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 79% 10 Year: 84%</td>
</tr>
<tr>
<td>IIIA</td>
<td>T1a-4a N1a M0</td>
<td>Any</td>
<td>No</td>
<td>1 node microscopic involvement</td>
<td>70% 63%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 63% 10 Year: 57%</td>
</tr>
<tr>
<td>IIIIB</td>
<td>T1b-4b N1a M0</td>
<td>Any</td>
<td>Yes</td>
<td>1 node microscopic involvement</td>
<td>52% 38%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 38% 10 Year: 32%</td>
</tr>
<tr>
<td>IIIIB</td>
<td>T1b-4b N2a M0</td>
<td>Any</td>
<td>Yes</td>
<td>2 – 3 nodes with microscopic involvement</td>
<td>50% 36%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 36% 10 Year: 36%</td>
</tr>
<tr>
<td>IIIIC</td>
<td>T1b-4b N1b M0</td>
<td>Any</td>
<td>Yes</td>
<td>1 node macroscopic involvement</td>
<td>59% 48%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 48% 10 Year: 48%</td>
</tr>
<tr>
<td></td>
<td>T1b-4b N2b M0</td>
<td>Any</td>
<td>No</td>
<td>2 – 3 nodes with macroscopic involvement</td>
<td>46% 39%</td>
</tr>
<tr>
<td></td>
<td>Any T N2b M0</td>
<td>Any</td>
<td>Any</td>
<td>in-transit mets/satellites without metastatic nodes</td>
<td>47% 37%</td>
</tr>
<tr>
<td>IIIIC</td>
<td>T1b-4b N1b M0</td>
<td>Any</td>
<td>Yes</td>
<td>1 node macroscopic involvement</td>
<td>29% 24%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 Year: 24% 10 Year: 24%</td>
</tr>
<tr>
<td>Stage</td>
<td>T1b–4b</td>
<td>N2b</td>
<td>M0</td>
<td>Any</td>
<td>Yes</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Any T</td>
<td>N3</td>
<td>M0</td>
<td>Any</td>
<td>Any</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV</th>
<th>Any T</th>
<th>Any N</th>
<th>Any M</th>
<th>Any</th>
<th>Any</th>
<th>M1a is distant skin, subq or nodal mets</th>
<th>60%</th>
<th>30%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M1b is lung mets</td>
<td>55%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M1c is all other visceral or distant mets</td>
<td>38%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Appendix (v) Skin Imaging Guidelines

1. Introduction

‘A Guideline is not a rigid constraint upon clinical practice, but a concept of good practice against which the requirements of the individual patient can be considered’. (RCR, 1990).

It therefore remains the responsibility of the practising Clinicians to interpret the application of guidelines, taking into account local service constraints and the needs and wishes of the patients.

This guidance is not intended to be prescriptive nor exhaustive, but a guide towards best practice. Imaging protocols may vary depending on local circumstances, and the quality of the imaging service should be supported by regular audit and by attendance at multidisciplinary meetings.

Services should be planned to minimise travelling times whilst maintaining the highest standards of specialist care using local expertise and agreed protocols (Calman Hine report, paragraph 4.1.4) Patients should be scanned locally where there is suitable equipment and expertise.

In a large geographical area, imaging performed in different sites will vary depending on equipment availability, local expertise and imaging provider. Minimum standards of imaging are required to prevent duplication together with means of rapid image transfer across NHS net.

Castle Hill Hospital provides the full range of imaging and diagnostic services, including ultrasound, CT & PET scanning, together with facilities for image guided biopsy.

Imaging for Skin Cancers is relatively limited due to the nature of the majority of tumours investigated, histology being the main method of diagnosis.

At the Cancer Centre the Consultant Radiologist has 2 CT reporting sessions and 0.5 Skin Cancer MDT preparation session which allows to have the results of all imaging available in the short time.

All the patients with at least Stage II C have all staging imaging including Plain films, CT, MRI PET/CT discussed weekly by Consultant Radiologist on MDT.

A local audit of patients having staging imaging for disease Stage less than IIC showed no benefit.
2. Malignant Melanoma

2.1 Investigation

No investigations are necessary for patients with Stage I disease. Stage I and IIA/B melanoma patients should not be staged by imaging, as the true-positive pick up rate is low and the false-positive rate is high. This recommendation would be revised if effective therapy for visceral melanoma were identified.

2.2 Local Radiology Guidelines (AJCC Stage)

Stage IIC and above (Breslow > 4mm and ulcerated, T4b)

Patients at intermediate or high risk of recurrent disease (Stage IIC and over) should have the following staging investigations:

- Staging Contrast Enhanced Computed Tomography of the chest, abdomen and pelvis including neck if needed
- CT follow up in 3 month for uncertain lesions for example lung nodules
- Liver MRI or US guided liver biopsy may be needed for equivocal liver lesions
- PET / CT Scan for uncertain lesions, before metastasectomy and disease recurrence
- MRI of the spine in the case of possible spinal metastases, spinal cord compression.

In the absence of effective chemotherapy for melanoma, however, it may be reasonable to omit scanning in individual Stage IIIB patients.

2.3 Follow Up

- 6 monthly follow-up for the first 2 years unless develop further disease

2.4 Managements of patients with confirmed positive lymph node metastasis

Prior to block dissection, staging investigations should be carried out as listed above. Where preoperative scanning would necessitate delay to surgery that is considered necessary, even if widespread disease were to be detected, post operative scanning may be carried out.

2.5 Recommendations for locoregional recurrent melanoma

Prior to formal dissection, staging by scan should be carried out other than where this would mean unnecessary delay.

2.6 PET–CT scan referral
There is good evidence that patients benefit from PET–CT scanning by improved disease assessment resulting in altered therapy and improved outcome.

All patients with malignant melanoma relapse suitable for radical therapy should have PET/CT scan.

*Estimate of patients requiring scans: 30 patients per million, 1800 scans per year
UK PET–CT Advisory Board January 2009*

### 3. Basal Cell / Squamous Cell Carcinoma

#### 3.1 Diagnosis and Investigation

Imaging techniques such as computed tomography or magnetic resonance imaging scanning are indicated in cases where bony involvement is suspected or where the tumour may have invaded major nerves, the orbit or the parotid gland.

Other techniques, such as ultrasound, spectroscopy and teraherz scanning, are of academic interest but currently have little or no proven clinical role.

#### 3.2 Follow Up

Regular radiological imaging is currently not a necessity, but clinical photography may be helpful in follow up, particularly in those with multiple atypical moles.

### Appendix (vi) Supportive Care Pathway

**NEYHCA (Cancer) HIGH LEVEL SUPPORTIVE CARE PATHWAY**
HYCCN HIGH LEVEL SUPPORTIVE CARE PATHWAY

The pathway has four key components identified that would significantly improve the patients' experience.

- **a = Holistic Assessment**
- **◎ = Key Discussion Point**
- **◇ = Single Contact with the assigned Key Worker**
- **i = Patient/carer information**

<table>
<thead>
<tr>
<th>Identified Key Components</th>
<th>Stage on Pathway</th>
<th>Dependant On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information available and offered</td>
<td>Pre-referral and Screening Programmes</td>
<td>Accessible Health Promotion Information: Support and Advice from the Practice Nurse. (See Guidance) GPs following NICE guidelines for timely referral.</td>
</tr>
<tr>
<td>Key discussion point: Fast Track systems on what happens next information offered</td>
<td>1. OP/Symptoms</td>
<td>GPs having the agreed time frame specific pathways using a symptom based approach to select the appropriate test / referral.</td>
</tr>
<tr>
<td>Information offered: Key contact identified to navigate investigations. Patient support may not be Specialist CNS</td>
<td>Information offered:</td>
<td>Direct Access resources so tests can be carried out before referral (not GPs) Requesting the appropriate tests to inform diagnosis and practice staff having ability to offer support.</td>
</tr>
<tr>
<td>Key worker(s) identified: this may be the CNS, Meet with contact details given Holistic Assessment Information offered. Key discussion point - diagnosis given next steps explained.</td>
<td>2.1 Diagnosis and staging: Patient will be presented at MDT</td>
<td>Co-ordination of tests to reduce visits and adhere to agreed time scales. Care member attendance at MDT to facilitate next steps – referral to oncology etc. to happen at MDT. Development of the patient management plan.</td>
</tr>
<tr>
<td>Key worker same – contact/meet patient after MDT: Revisit Holistic Assessment Information offered.</td>
<td>2.1.1 Treatment planning: Options</td>
<td>Timely patient handover of care with all relevant information. Communication with GP / Community Staff to enable timely, effective primary Care support.</td>
</tr>
<tr>
<td>Consider change in key worker depending on treatment modality – meet new &amp; contact numbers given</td>
<td>2.1.2 Treatment: Surgery, Chemotherapy, Radiotherapy, Watchful Wait</td>
<td></td>
</tr>
<tr>
<td>Revisit Holistic Assessment: Beginning and end of each treatment Information offered.</td>
<td>2.1.2.1 Living with Cancer: Support; Resurgence: relapse suspected</td>
<td>Rigid access into secondary care for investigation of possible recurrence; further symptom management. Primary care to be aware when to re-refer</td>
</tr>
<tr>
<td>Key discussion point: What happens next?</td>
<td>2.1.2.1</td>
<td></td>
</tr>
<tr>
<td>Consider key worker change – may be to primary care; meet new &amp; contact numbers given</td>
<td>Discharge Holistic Assessment Information offered.</td>
<td></td>
</tr>
<tr>
<td>Key discussion point: What happens next?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At any stage of the pathway the patient referral for specialist palliative care input should be considered based on assessed need. If and when patients are assessed to have 6 – 12 months to live they will move onto End of Life pathway.

adapted from YCN supportive care pathway
## Appendix (vii) Skin CEG Members List (updated 25.10.2012)

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Rachel Allan</td>
<td>Service Support Officer, NLGHFT</td>
</tr>
<tr>
<td>Ms Pauline Bamgbala</td>
<td>Cancer Lead, North East Lincolnshire Care Trust Plus</td>
</tr>
<tr>
<td>Ms Adrienne Bell</td>
<td>Assistant Service Manager, HEYHT</td>
</tr>
<tr>
<td>Dr James Britton</td>
<td>Consultant Dermatologist, Spire Hospital Hull &amp; East Riding</td>
</tr>
<tr>
<td>Ms Sharon Buckley</td>
<td>Cancer Project Coordinator, NLGHFT</td>
</tr>
<tr>
<td>Ms Kay Burns</td>
<td>Macmillan Dietician, NLGHFT</td>
</tr>
<tr>
<td>Ms Debra Butler</td>
<td>Divisional General Manager for Ortho, Trauma, Plastics and, HEYHT</td>
</tr>
<tr>
<td>Dr Aamir Butt</td>
<td>Consultant Dermatologist, NLGHFT</td>
</tr>
<tr>
<td>Ms Wendy Cayton</td>
<td>Planning Manager, HEYHT</td>
</tr>
<tr>
<td>Ms Kathy Dent</td>
<td>Lead Research Nurse, NLGHFT</td>
</tr>
<tr>
<td>Ms Sharon Eblet</td>
<td>Dermatology Sister, York Teaching Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Ms Sharon Edwards</td>
<td>Clinical Nurse Specialist Skin &amp; Sarcoma, HEYHT</td>
</tr>
<tr>
<td>Mrs Victoria Frost</td>
<td>Data Manager, HEYHT</td>
</tr>
<tr>
<td>Ms Mikki Golodnitski</td>
<td>Senior Commissioning Specialist, NHS North Yorkshire &amp; York Cluster</td>
</tr>
<tr>
<td>Dr Prakash Gowda</td>
<td>Consultant, NLGHFT</td>
</tr>
<tr>
<td>Mr Garry Gregory</td>
<td>Consultant Oral and Maxillofacial Surgeon, NLGHFT</td>
</tr>
<tr>
<td>Mr James Haaney</td>
<td>Consultant Plastic Surgeon, HEYHT</td>
</tr>
<tr>
<td>Mr John Hancock</td>
<td>Head of Specialist Services, North Yorkshire and York</td>
</tr>
<tr>
<td>Miss Louise Hobson</td>
<td>Trust Cancer Manager, NLGHFT</td>
</tr>
<tr>
<td>Dr Carol Hunt</td>
<td>Medical Director, NEYHCA</td>
</tr>
<tr>
<td>Mr Colin Hurst</td>
<td>Communication/Engagement Manager, NEYHCA</td>
</tr>
<tr>
<td>Dr Nuala Kennan</td>
<td>Consultant Radiologist, HEYHT</td>
</tr>
<tr>
<td>Miss Sarah Kent</td>
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<td>Ms Lorraine Laws</td>
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<td>Professor Mike Lind</td>
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<tr>
<td>Mr Srdjan Ljubojevic</td>
<td>Cancer Research Network Manager, HYCCRN</td>
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<tr>
<td>Dr Calum Lyon</td>
<td>MDT Lead (vii)</td>
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<tr>
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<tr>
<td>Mr Paolo Matteucci</td>
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<td>Dr Bipin Mathew</td>
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<tr>
<td>Ms Jacqueline McGuire</td>
<td>Macmillan Dietician, NLGHFT</td>
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<tr>
<td>Mrs Sherry McKiniry</td>
<td>Chair – Network AHP Group, NEYHCA</td>
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<tr>
<td>Mr Alok Misra</td>
<td>Locum Consultant, HEYHT</td>
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<tr>
<td>Ms Rachel Mitchell</td>
<td>MDT co–ordinator, NLGHFT</td>
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<tr>
<td>Dr Javed Mohungoo</td>
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<tr>
<td>Ms Gill Moverley</td>
<td>MDT Assistant, HEYHT</td>
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<tr>
<td>Dr Ann Myatt</td>
<td>Consultant Dermatologist, Assura East Riding LLP</td>
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<tr>
<td>Mrs Christine Norris</td>
<td>Trust Cancer Manager, York Teaching Hospital NHS Foundation Trust</td>
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<tr>
<td>Ms Janet Parish</td>
<td>Clinical Nurse Specialist, Scarborough Hospital</td>
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<tr>
<td>Ms Pamela Parkinson</td>
<td>Research Data Manager, HEYHT</td>
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<tr>
<td>Mrs Margaret Parrott</td>
<td>Trust Lead Cancer Manager, HEYHT</td>
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<tr>
<td>Mr Alastair Platt</td>
<td>Consultant Plastic Surgeon, HEYHT</td>
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<tr>
<td>Ms Vicky Pullen</td>
<td>Planning Manager, HEYHT</td>
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<tr>
<td>Ms Wendy Quinn</td>
<td>Director of Operations – Surgery Health Group, HEYHT</td>
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<tr>
<td>Ms Jill Ramsay</td>
<td>Clinical Nurse Specialist Dermatology, NLGHFT</td>
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<tr>
<td>Mrs Sue Reid</td>
<td>Programme Support Manager, NEYHCA</td>
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<tr>
<td>Mr Muhammad Riaz</td>
<td>MDT Lead</td>
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<tr>
<td>Dr Anu Roy</td>
<td>Vice Chair</td>
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<tr>
<td>Mrs Janet Shipley</td>
<td>Consultant Histopathologist, HEYHT</td>
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<tr>
<td>Ms Denise Smith</td>
<td>General Manager, Medicine Group, NLGHFT</td>
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<tr>
<td>Ms Joanne Southwell</td>
<td>Business Manager for Dermatology, York Teaching Hospital NHS Foundation Trust</td>
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<tr>
<td>Mr Paul R Stanley</td>
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<tr>
<td>Ms Julie Taylor-Clark</td>
<td>Clinical Alliance Director / Executive Nurse, NEYHCA</td>
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<td>Mr Peter Townsend</td>
<td>Deputy Director, NEYHCA</td>
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<td>Medical Director, NHS England – North Yorkshire and Humber Area Team</td>
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<tr>
<td>Dr Sunil Upadhyay</td>
<td>Consultant Clinical Oncologist, HEYHT</td>
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<td>Dr Shernaz Walton</td>
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<tr>
<td>Mr Jack Ward</td>
<td>Business Director, Assura East Riding LLP</td>
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<td>Miss Deborah Whitehead</td>
<td>Macmillan Lead Cancer Nurse, NLGHFT</td>
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<tr>
<td>Dr Joanna Wieczorek</td>
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<tr>
<td>Ms Lesley Windass</td>
<td>Director of Operations, Medicine, HEYHT</td>
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<td>Ms Helen Wright</td>
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<tr>
<td>Dr Malcolm Abrines</td>
<td>General Practitioner</td>
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<tr>
<td>Dr Susan Adamson</td>
<td>General Practitioner</td>
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<tr>
<td>Dr Nicholas Alexander</td>
<td>General Practitioner, Hull and East Riding Community Healthcare Trust</td>
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<tr>
<td>Dr George Campbell</td>
<td>General Practitioner</td>
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<tr>
<td>Dr Simon Carruthers</td>
<td>General Practitioner, NHS East Riding of Yorkshire</td>
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<td>Dr Paul Charlson</td>
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<tr>
<td>Dr Keith Collett</td>
<td>General Practitioner, NHS North East Lincolnshire</td>
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<tr>
<td>Ms Mikki Golodnitski</td>
<td>Senior Commissioning Specialist, NHS North Yorkshire &amp; Humber CSU</td>
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<tr>
<td>Dr John Harris</td>
<td>General Practitioner, NHS North East Lincolnshire</td>
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<td>Dr Khurram Jafri</td>
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<td>Dr Richard Kurtis</td>
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<td>Dr Michael Lynch</td>
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<td>Dr James Mbugua</td>
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<td>Dr Elmer Molave</td>
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<td>Dr Jasmine Munjal</td>
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<td>Dr Arun Nayyar</td>
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<td>Dr Jovita Ojadi</td>
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<td>Dr Ram Singh</td>
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<td>Dr Olenrewaju Wilson</td>
<td>General Practitioner, NHS North East Lincolnshire</td>
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</table>

**Skin CEG Executive Team**

**Chair**  
Dr Anu Roy Consultant Histopathologist, HEYHT

**Vice Chair**  
Dr Prakash Gowda, Consultant, NLGHFT

**MDT Leads**  
Dr Aamir Butt, Consultant Dermatologist, NLGHFT  
Mr Muhammad Riaz, Consultant Plastic Surgeon, HEYHT  
Dr Calum Lyon, Scarborough Hospital

**Member Responsible for User / Patient Information**  
Ms Sharon Edwards, Clinical Nurse Specialist – Skin & Sarcoma, HEYHT

**Member Responsible for the integration of Service Improvement:**  
TBC

**Member Responsible for Recruitment into Clinical Trials**  
Dr Aamir Butt Consultant Dermatologist, NLGHFT (SGH)
CEG Chairs – Speciality Referrals Agreements

Head and Neck CEG Chair
Mr Jemy Jose                     Consultant ENT Surgeon, HEYHT

Colorectal CEG Chair
Mr James Gunn                    Consultant Surgeon, NLGHFT

Gynaecology CEG Chair
Mr Theo Giannopoulos             Consultant Gynaecologist, HEYHT

Urology CEG Chair
Mr Matt Simms                    Consultant Urologist, HEYHT

Haemato–Oncology, MDT Lead, HEYHT
Dr Haz Sayala                    Consultant Haematologist, HEYHT

Sarcoma MDT Lead, HEYHT
Mr Alastair Platt                Consultant Plastic Surgeon, HEYHT

Breast CEG Chair
Mr Kartikae Grover               Consultant Breast Surgeon, HEYHT

Guidelines Agreed (Clinical, Imaging & Pathology)

Agreement of the North East Yorkshire & Humber Clinical Alliance (Cancer) Guidelines for the Management of Adult Patients with Skin Cancers by the Skin Clinical Expert Group

These guidelines were developed by the former Skin NSSG, taking into account NICE Guidance and the IOG, and are the standard for care across the Clinical Alliance. They were discussed and circulated within the group as per the NEYHCA (Cancer) consultation process.

All CEG members are given the opportunity to assist in the publication of the guidelines / comment.

The guidelines are formally agreed by the Skin CEG, at a quorate meeting. Those present at the meeting agree the document on behalf of the group. Those not present at the meeting accept the groups' decision. The guidelines are then presented to the Cancer Management Group for their agreement.

The guidelines agreement sheet has been signed by the Chair & the MDT Leads.

This version of the guidelines was agreed by the Skin CEG on the 6th September 2013.
## Sign Off Sheet

<table>
<thead>
<tr>
<th>Agreement of the NEYHCA (Cancer) Guidelines for the Management of Adult Patients with Brain &amp; Other CNS Tumours</th>
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<td>Title</td>
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<tr>
<td>Chair of the Skin &amp; CNS CEG</td>
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<tr>
<td>MDT Lead, HEYHT</td>
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<td>Clinical Lead, Hull and East Yorkshire Hospitals NHS Trust</td>
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**Clinical Lead, Scarborough Hospital**  
Mr David Alexander

**Agreement of the NEYHCA (Cancer) Guidelines for the Management of Adult Patients with Brain & Other CNS Tumours**

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</table>

**Clinical Lead, Northern Lincolnshire & Goole Hospitals NHS Foundation Trust**  
Dr Stuart Baugh

**Medical Director, NEYHCA (Cancer)**  
Dr Carol Hunt

**Chair of the NEYHCA (Cancer) Imaging Clinical Expert Group**  
Dr David Salvage, HEYHT

**These Guidelines have been agree by the Skin Clinical Expert Group**