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**Introduction and Background**

The National Institute for Health and Care Excellence (NICE) published *Improving Outcomes for People with Skin Tumours including Melanoma*\(^1\) in 2006 (Improving Outcomes Guidance – IOG\(^2\)) as part of the review of all tumour types, to implement *The NHS Cancer Plan*.

The IOG\(^3\) was updated in May 2010 for the management of low-risk basal cell carcinomas in the community.

The IOG was published before the establishment of the London Cancer Alliance (LCA), and its recommendations were intended to assist the former cancer networks, which were abolished in April 2013. However, the principles of the IOG are still relevant and should be observed by Trusts within the LCA.

The major recommendations are as follows:

There should be two levels of multidisciplinary teams (MDTs) – local skin cancer multidisciplinary teams (LSMDTs) and specialist skin cancer multidisciplinary teams (SSMDTs). Where necessary, all health professionals who knowingly treat patients with any type of skin cancer should be members of one of these teams, whether they work in the community or in the hospital setting.

This is the basis of successful management of skin cancer within the LCA and is firmly adhered to.

People with precancerous skin lesions should be either treated entirely by their GP or referred for diagnosis, treatment and follow-up by doctors working in the community who are members of the LSMDT/SSMDT. If there is any doubt about the diagnosis, people with precancerous lesions should be referred directly to their local hospital skin cancer specialist, normally a dermatologist or plastic surgeon, who is a member of the LSMDT/SSMDT. Where appropriate, follow-up of these patients may be undertaken by their own GP.

Patients with low-risk basal cell carcinomas (BCC) (see IOG update, 2010) should be diagnosed, treated and followed-up by doctors working in the community as part of the LSMDT/SSMDT (usually a GP with a special interest in dermatology), or a local hospital skin cancer specialist, normally a dermatologist or plastic surgeon, who is a member of the LSMDT/SSMDT and to whom they have been directly referred. Where there is doubt about the lesion being low or high grade, the patient should be referred directly to the LSMDT/SSMDT. The LCA defines a specialist in the diagnosis of skin malignancy as someone who has had recognised formal training, is a core member of the MDT and adheres to the rules of core membership. Pathology specimens should be sent to the core pathologist who is part of the same MDT.

All patients with a suspicious pigmented skin lesion, with a skin lesion that may be a high-risk BCC, a squamous cell carcinoma (SCC) or a malignant melanoma (MM), or where the diagnosis is uncertain, should be referred to a doctor trained in the specialist diagnosis of skin malignancy, normally a dermatologist or plastic surgeon, who is a member of either an LSMDT or an SSMDT.

LSMDTs and SSMDTs should work to agreed protocols for:

- referral
- review of patient care by the multidisciplinary team
- management and audit of services for precancerous lesions and skin cancer services.
They should also ensure provision of ongoing education for all healthcare professionals about this very common group of tumours.

The follow-up of patients after treatment should be jointly agreed between patient and doctor. After appropriate instruction, patients with low-risk disease will normally practise self-examination but follow-up may be offered in a community setting where appropriate. Patients with a high risk of recurrence of their skin cancer or of new primary cancers should normally be followed-up in hospital but should still be instructed in self-examination and provided with written and photographic information.

All patients and carers should have access to high-quality information, in an appropriate style and format, about their condition and its management and about access to relevant support services.

Protocols should be followed which cover the management of high-risk groups or those with special needs such as transplant patients, those with genetic predisposition to skin cancer, patients with rare skin tumours (including cutaneous lymphoma), and children and young people.

Epidemiology of skin cancers

There are 60,000 new cases of skin cancers in England and Wales reported each year, which is probably an underestimate and does not include BCCs. One of the few studies published in the UK suggests that the true annual incidence could be over 125,000 new cases of non-melanoma skin cancer (NMSC) annually in England and Wales. This would mean that a district general hospital serving a population of 250,000 would treat about 625 new cases per year and a typical general practice, serving a population of 10,000, would see about 25 new NMSC cases each year. Despite these limitations, cancer registry data can be used to look at trends in incidence, mortality and survival, and variations in these by sex, age and region of the country.

Malignant melanoma

The term ‘malignant melanoma’ is confusing. Melanoma, by definition, is a malignant skin lesion. There is no such entity as ‘benign melanoma’. Throughout the text of these guidelines, the terms malignant melanoma and melanoma are interchangeable.

Malignant melanoma (MM), although far less common than non-melanoma skin cancer (NMSC) is the major cause of death from skin cancer and is more likely to be accurately reported and diagnosed than NMSC. MMs most commonly develop on intermittently exposed sites, on the back in males and the lower leg in females.

In 2010 there were 12,818 (6,201 in men and 6,617 in women) new cases of MM registered in the UK. MMs are more common in women than in men. The age-standardised incidence of MM has been steadily increasing over the past three decades in both males and females with rates of 20 (females) and 21 (males) per 100,000 population by 2010.

The incidence of MM increases with age in both men and women, rising steadily in both sexes from age 20–24 years onwards and reaching a peak at 85+. Of the new MM cases diagnosed in the UK between 2008 and 2010, an average of 27% were in those aged under 50 years, with an average of 45% of cases diagnosed in people aged 65 years and over.

Since the mid-1970s, the overall incidence of MM has increased. Some of this may be attributed to earlier detection and increased surveillance, but most of this increase is linked to changes in sun-related behaviour, i.e. holidays abroad. Incidence rates in the UK have increased sharply from 2000 onwards, from
around 10.8:100,000 in 2000 to 17.3:100,000 in 2010. They have increased across all age groups for males and females between 1975–77 and 2008–10. The largest overall increase was seen in the 60–79 age range (see Table 1 below).

**Table 1: Increase in incidence rates of malignant melanoma in the UK**

<table>
<thead>
<tr>
<th></th>
<th>1975–77</th>
<th>2008–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>5.4:100,000</td>
<td>54.2:100,000</td>
</tr>
<tr>
<td>Female</td>
<td>7.4:100,000</td>
<td>40.2:100,000</td>
</tr>
</tbody>
</table>

MM accounts for around 1% of all cancer deaths in the UK. In 2011, there were 2,209 deaths from MM in the UK (1,295 men and 914 women). Table 2 below outlines the MM mortality rate for men and women in 1971, 2001 and 2010.

**Table 2: Increase in mortality rates of malignant melanoma in the UK**

<table>
<thead>
<tr>
<th></th>
<th>1971</th>
<th>2001</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.1:100,000</td>
<td>2.6:100,000</td>
<td>3.3:100,000</td>
</tr>
<tr>
<td>Female</td>
<td>1.4:100,000</td>
<td>2.0:100,000</td>
<td>2.0:100,000</td>
</tr>
</tbody>
</table>

The age-specific mortality rates for MM of the skin are higher:
- in men than in women: since the early 1970s, mortality rates have increased by 185% for men between 1971–73 and 2009–11 and 55% for women over the same period
- in the older age groups: over the last 40 years, mortality rates have increased for all age groups (except 15–39 and 40–49 years) with the largest rises in those aged 75 years and older.

The survival of MM patients has improved over time for 1-year, 5-year and 10-year survival rates (see Tables 3, 4 and 5).

**Table 3: Percentage of malignant melanoma patients surviving after 1 year**

<table>
<thead>
<tr>
<th></th>
<th>1971–75 (England and Wales)</th>
<th>2005–09 (England)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>78.5%</td>
<td>95.7%</td>
</tr>
<tr>
<td>Female</td>
<td>89.4%</td>
<td>97.7%</td>
</tr>
</tbody>
</table>

These survival rates are an indicator of early diagnosis, as death before 1 year may be due to diagnosis at a late stage.

**Table 4: Percentage of malignant melanoma patients surviving after 5 years**

<table>
<thead>
<tr>
<th></th>
<th>1971–75 (England and Wales)</th>
<th>2005–09 (England)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>46.7%</td>
<td>83.6%</td>
</tr>
<tr>
<td>Female</td>
<td>65.1%</td>
<td>91.6%</td>
</tr>
</tbody>
</table>
Table 5: Percentage of malignant melanoma patients surviving after 10 years

<table>
<thead>
<tr>
<th></th>
<th>1971–75</th>
<th>2009 (predicted)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(England and Wales)</td>
<td>(England)</td>
</tr>
<tr>
<td>Male</td>
<td>38.5%</td>
<td>80%</td>
</tr>
<tr>
<td>Female</td>
<td>58.3%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Survival among MM patients decreases with increasing age (93% in 15–39 year olds to 74.5% in 80–99 year olds) and is lower among males. (Source: Cancer Research UK)

Survival in MM is strongly correlated with the depth of invasion at diagnosis, commonly known as the Breslow thickness.

Non-melanoma skin cancers (NMSC)

NMSC means either squamous cell carcinoma (SCC) or basal cell carcinoma (BCC) as opposed to malignant melanoma (MM).

NMSCs are the most common cancers in the UK. Although 99,549 cases were registered in the UK during 2010, there is likely to be significant under-reporting of cases. NMSCs are most common in older age groups. The most common places for NMSCs to develop are on the exposed body parts such as the face, neck, ears, forearms and hands. While these are rarely fatal, they can result in considerable morbidity.

The rates for 2010 show that mortality from NMSC remains low – 546 deaths in the UK. 59% of these were in males.

Multiple primaries

Many skin cancer patients develop multiple cancers of different histological types, and it is not uncommon for a patient to present with any combination of MM, SCC and BCC or to present with one type and develop another subsequently. As described previously, cancer registration practices vary significantly, making an accurate assessment of the risk of presenting with or developing metachronous cancers difficult.

Rare skin tumours

There are rarer types of skin cancer (i.e. Merkel cell carcinoma, Kaposi’s sarcoma, angiosarcoma, eccrine porocarcinoma) which make up about 1% of skin cancers diagnosed in the UK.

Risk factors for skin cancer

As skin cancer has become more common over the past few decades, it has become a greater public health problem. While mortality is relatively low, a significant demand on health services results from the associated morbidity. NMSCs on the head and neck in particular are numerically a significant cause of morbidity. In 1992 the White Paper Health of the Nation included a target to halt the year-on-year increase in incidence of skin cancer by 2005; at that time there were about 28,000 cases of skin cancer registered each year. This target has not been reached, as the incidence of skin cancer continues to increase.

Strategies for prevention are essential to avoid skin cancer affecting an increasing percentage of the population. The most important risk factor for skin cancer development is UV exposure, both natural and artificial. Higher risk of 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. Epidemiology clearly identifies over-exposure to sunlight in people with sensitive skin types as the main risk factor. In 2003, Cancer Research UK (CRUK) launched the SunSmart campaign. SunSmart is a national skin prevention campaign which is run by CRUK and commissioned by UK health departments.

Other environmental factors such as arsenic are now rare risk factors for the development of skin cancer. A small proportion (less than 2%) of skin cancers develop in people with a strong genetic predisposition. The most common conditions are Gorlin’s syndrome and familial melanoma. Xeroderma pigmentosum is a rare but very high-risk genetic condition. Another well-described risk factor is immunosuppression, especially following organ transplantation. These groups are at increased risk from UV exposure and should all be given prevention advice. As the development of skin cancer is almost inevitable for many patients in these high-risk groups, services for early detection and treatment need to be tailored to their specific needs.

The purpose of these guidelines

The LCA Skin Cancer Clinical Guidelines have been produced with the assistance of a multidisciplinary group of clinicians to provide a comprehensive overview of the skin cancer patient’s journey from referral to treatment and support. The guidelines conform to recognised best practice (IOG) to ensure delivery of consistently high standards of care in Trusts which treat skin cancer patients within the integrated cancer system.

The LCA Skin Cancer Clinical Guidelines have taken into consideration the Manual for Cancer Services Skin Measures (Version 1.0) published by the National Peer Review Programme in January 2014.

They provide evidence-based clinical information and protocols and are designed to be used by all healthcare professionals involved in the care of skin cancer patients. They also include examples of current evidence-based management.

It should be noted that the LCA guidelines supersede the guidelines previously produced by the former cancer networks in north west, south west and south east London.

The key recommendations for skin cancer in A model of care for cancer services: Clinical Paper (NHS, August 2010) are:

- services for invasive skin cancer associated with a greater risk or rarity, such as malignant melanoma, should be consolidated where they are not Improving Outcomes Guidance compliant. SSMDTs should cover a population of at least 750,000
- all GPs undertaking the management of basal cell carcinomas should be appropriately trained and accredited to do so. The LCA should ensure that GPwSI adhere to national recommendations.

The LCA Skin Pathway Group is working to ensure that providers of skin cancer services meet these model of care recommendations and will liaise with those areas which are not currently compliant to develop corrective action plans.

These guidelines are a living document and will be reviewed and updated regularly to ensure that they reflect any changes in practice and emerging clinical evidence.
I would like to thank the following people for their contribution to these clinical guidelines:

Mr Alastair MacKenzie Ross – Consultant Plastic Surgeon, Guy’s and St Thomas’ NHS Foundation Trust
Dr Mark Harries – Consultant Medical Oncologist, Guy’s and St Thomas’ NHS Foundation Trust
Dr Saqib Bashir – Consultant Dermatologist, King’s College Hospital NHS Foundation Trust
Dr Susan Lalondrelle – Consultant Clinical Oncologist, Guy’s and St Thomas’ NHS Foundation Trust
Dr Danuta Orlowska – Clinical Psychologist, Skin Cancer, Guy’s and St Thomas’ NHS Foundation Trust
Ms Saskia Reeken – Clinical Nurse Specialist, Kingston Hospital NHS Trust
Dr Justin Weir – Consultant Histopathologist, Imperial College Healthcare NHS Trust
Ms Nicola Glover – Project Manager, London Cancer Alliance
Dr Rosemary Allen – Consultant Radiologist, St George’s Healthcare NHS Trust
and members of the LCA Skin Pathway Group.

Professor Barry Powell

Chair, LCA Skin Pathway Group
Professor in Plastic and Reconstructive Surgery, St Georges Healthcare NHS Trust

1 Improving Outcomes for People with Skin Tumours including Melanoma
   http://www.nice.org.uk/guidance/csgstim/resources/improving-outcomes-for-people-with-skin-tumours-including-
   melanoma-the-evidence-review-2006-evidence-review2
2 http://www.nice.org.uk/Guidance/CSGSTIM
3 Improving Outcomes for People with Skin Tumours including Melanoma (update)
   http://www.nice.org.uk/guidance/csgstim/resources/improving-outcomes-for-people-with-skin-tumours-including-
   melanoma-update-the-management-of-lowrisk-basal-cell-carcinomas-in-the-community-evidence-review-2010-
   partial-guidance-update-evidence-review2
Executive Summary

The London Cancer Alliance (LCA) Skin Cancer Clinical Guidelines combine the best aspects of the former cancer network guidelines and have been updated to reflect changes and developments in practice. The guidelines are multidisciplinary and cover surgery, dermatology, pathology, radiotherapy, imaging, survivorship and follow-up, key workers, and psychological support.

The referral guidelines in Chapter 1 outline the best practice referral pathways from primary to secondary care and from local skin cancer multidisciplinary teams (MDTs) to specialist skin cancer MDTs for melanoma, squamous cell carcinoma and basal cell carcinoma.

The surgical section (Chapters 2, 3 and 4) is based on a number of key guideline documents from the British Journal of Dermatology. Chapter 2 provides a detailed overview of the investigation, staging and management of melanoma in primary and secondary care. Squamous cell carcinomas are discussed in detail in Chapter 3, which includes a best practice pathway for reference. Chapter 4 outlines the diagnosis, management and surgical techniques employed in the treatment of basal cell carcinomas.

Pathways for skin cancer in specific anatomical sites including head and neck, urology/penile and haematology are briefly outlined in Chapter 5. These have been shared with the relevant pathway group chairs for review and agreement.

Chapter 6 outlines the referral pathways for children (under the age of 16), teenagers (16–18) and young adults (19–24) either to a local centre or a principal treatment centre depending on the diagnosis and the age of the patient.

Chapter 7 presents the pathology guidelines developed for the diagnosis and assessment of skin cancer. The pathway group adopts in principle the evidence-based component of the current minimum datasets for histopathological reporting from the Royal College of Pathologists.

The radiotherapy section (Chapter 8) provides a protocol for skin cancers and irradiation to prevent recurrence of keloid scars after excision. The treatment that patients receive is customised to their individual requirements and this may entail close consultation between radiographers and other clinicians.

The imaging section (Chapter 9) includes recommended best practice imaging modalities for staging and surveillance of malignant melanocytic lesions and non-melanoma skin cancer.

The survivorship and follow-up section (Chapter 10) draws on the best available evidence and current national policy and was written in response to various workstreams, including the National Cancer Patient Experience Survey.

Psychological support (Chapter 11) provides a comprehensive overview of the types of services available in the LCA.
1 Referral Guidelines

1.1 Primary care to unit

1.1.1 General recommendations

A patient presenting with a suspected squamous cell carcinoma or melanoma should be referred to either the LSMDT which is represented either by a dermatology or plastic surgery department or an SSMDT which acts as an LSMDT to a local population.

Biopsy or attempted excision should not be carried out in primary care. Any melanoma or SCC excision in primary care will be investigated by a member of the multidisciplinary team (MDT) if undertaken unknowingly.

Referral is to the 2-week rule clinic. A GP referral proforma should be completed in full, highlighting the referral criteria in particular. Previous network referral proformas (Appendix 1) still exist and should be completed and sent to LCA Trusts electronically, by fax or by post within 24 hours. The patient will be seen within two calendar weeks from that date.

The LCA defines a specialist in the diagnosis of skin malignancy as someone who has had recognised formal training, is a core member of the MDT and adheres to the rules of core membership. Pathology specimens should be sent to the core pathologist who is part of the same MDT.

Primary care physicians undertaking minor surgery should have received appropriate accredited training in relevant aspects of skin surgery and should undertake appropriate continuing professional development.

1.1.2 Melanoma: key points

**Incidence:** Approx. 4,000 cases p.a.

**Age:** Affects all adult groups

**Risk factors:** Excessive UV exposure

- Fair skin; poor tanning ability
- Large number of benign melanocytic naevi
- Family history
- Atypical Mole Syndrome

**Commonest locations:**

- Women: 50% on lower leg
- Men: 33% on the back

The weighted 7-point checklist should be used to assess pigmented lesions.

**Major features – 2 points**

- Change in size
- Irregular shape
- Irregular colour.
Minor features – 1 point

- Largest diameter 7mm or more
- Inflammation
- Oozing
- Change in sensation.

Suspicion is greater for lesions scoring 3 points or more. If cancer is strongly suspected, any one feature is adequate to prompt an urgent referral.

Change is a key element in diagnosing malignant melanoma. For low suspicion lesions, undertake careful monitoring for change using the 7-point checklist (see above) for 8 weeks. Make measurements with photographs and a marker scale and/or rule. Explain to the patient your concerns and why you are reviewing. Encourage patient participation.

Investigations

- All pigmented lesions that are not viewed as suspicious of melanoma but are excised should have a lateral excision margin of 2mm of clinically normal skin and cut to include subcutaneous fat in depth.

All excised skin specimens should be sent for pathological examination.

When referring a patient in whom an excised lesion has been diagnosed as malignant, a copy of the pathology report should be sent with the referral correspondence. Please indicate the reason for removal of lesion in the community and the different diagnosis.

- Primary care physicians undertaking minor surgery should have received appropriate accredited training in relevant aspects of skin surgery, and should undertake appropriate continuing professional development.

1.1.3 Squamous cell carcinoma (SCC): key points

Incidence: Approx. 9,000–10,000 cases p.a.

Age: Rare in people under 60 years (unless immunosuppressed)

Risk factors: Lifetime excessive UV exposure

- Multiple small actinic lesions
- Fair skin; poor tanning ability
- Transplant recipients

Commonest locations: Both sexes: face, back of hand

- Women: lower leg
- Men: scalp, ear

General recommendations

SCCs present as keratinising or crusted tumours that may ulcerate. Non-healing lesions larger than 1cm with significant induration on palpation may be SCC. SS Cs should not be excised or biopsied in primary care and must be referred as an urgent suspected cancer referral to a specialist dermatology service. Any SCC excision in primary care will be investigated by a member of the MDT.
1.1.4 Basal cell carcinoma (BCC): key points

BCCs are slow growing, usually without significant expansion over 2 months. They usually occur on the face.

Suspected BCC should never be referred as a 2-week wait (2ww) rule or use the urgent suspected cancer pathway.

It is important that only suitably approved and accredited practitioners operate on BCCs. No BCC should NOT be biopsied or operated on in primary care (unless specifically accredited).

The details below outline how precancerous lesions and BCCs should be managed. BCCs excised by non-accredited practitioners will be investigated by a member of the MDT.

- Actinic keratoses and precancerous lesions may be dealt with by any GP.
- Suspected BCC must be referred to a specialist service using the locally agreed pathway:
  - low-risk BCCs can be referred to an appropriately accredited GP for further management, including excision where appropriate
  - high-risk BCCs must be referred to a specialist dermatology/plastic surgery service.

Clinical features of BCCs at high risk of recurrence (any one of these)

- Site: face, scalp, ears. (It should be noted that the treatment of low-risk BCCs is well documented in the NICE Improving Outcomes Guidance.)
- Size: 2cm or more.
- Immuno-compromised patients.
- Genetically predisposed patients (e.g. Gorlin’s syndrome).
- Previously treated lesions.
- Flat lesion, hard thickened skin (appearance of morphoeic BCC).
- Lesions where important structures are in proximity (i.e. temple and facial nerve), areas of aesthetic importance and areas where closure is impossible (i.e. legs).

For the purpose of GP referral, ‘low-risk BCC’ is considered to be any BCC other than those above.

Features of low-risk BCC

- Site: not on the face or neck
- Size: less than 2cm
- Is not recurrent BCC.

There will be occasions where referral to secondary care is impractical: GPs with a specialist interest (GPwSI) may undertake surgery locally following discussion with a core member of their local MDT. It is expected that this will be the exception rather than the rule. These cases will be audited by the MDT.

1.1.5 Guidelines for urgent referral on 2ww form

- Any lesion suggestive of skin cancer (other than BCC)
- Any lesion confirmed on biopsy to be cancer
- Any lesion suspected to be a melanoma
- Non-healing lesions larger than 1cm, with induration and present for over 8 weeks.
1.2 Making urgent appointments

Please use either the recognised skin cancer proforma, or the generic cancer referral proforma. Please complete as fully as possible, highlighting the referral criteria. The referral proforma must be faxed. Please ensure that the fax reaches the hospital within 24 hours of the decision to refer. Please avoid referring patients when they are not available to be seen (e.g. on holiday).

1.2.1 Unit to specialist MDTs

The following patients are discussed at the LSMDT:

- All patients with SCCs or high-risk BCCs that involve the excision margins or are recurrent.
- All patients with malignant melanoma – primary, recurrent and metastatic.
- Patients who are suitable for Mohs surgery.
- Patients with skin lesions of uncertain but possible malignant nature.
- Cases for nodal dissection including sentinel lymph node biopsy (SLNB).
- Immuno-compromised patients with skin cancers and patients who have Gorlin’s syndrome or other genetic conditions in which predisposition occurs.
- Patients with rare skin cancers (including lymphoma).
- Patients for whom there is a discrepancy between the clinical diagnosis and histopathology report.

The following patients are to be referred to the specialist skin cancer MDT (SSMDT):

- Patients with high-risk SCCs that pose difficulty in management.
- Patients with malignant melanoma managed by other site specialist teams such as gynaecological, sarcoma, penile, haematological, mucosal and head and neck (excluding ocular).
- Patients newly diagnosed with malignant melanoma Stage IIB or higher (American Joint Committee on Cancer (AJCC) staging system).
- Patients with malignant melanoma who are eligible for clinical trials that have been approved.
- Patients with Stage IB melanoma who wish to discuss the possibility of SLNB in the staging of their disease.
- Patients with multiple malignant melanoma.
- Patients younger than 19 years with malignant melanoma.
- Any patient with metastatic malignant melanoma or SCC diagnosed at presentation or on follow-up.
- Patients with giant congenital naevi where there is suspicion of malignant transformation.
- Patients with BCCs that are metastatic.
- Patients with malignant skin lesions of uncertain pathological diagnosis.
- Patients with rare skin cancers, including lymphoma and sarcoma.
For periodic review:

- Patients developing skin cancers who are immuno-compromised, have Gorlin’s syndrome or other genetic predisposition syndromes.
- Patients needing nodal dissection including SLNB – these patients should be seen and referred by the LSMDT.
- Patients who may benefit from radiotherapy, if not available at the LSMDT.
- Patients who may be eligible for entry into clinical trials.
- Patients who require adjuvant treatment (where this is shown to be beneficial).

It is recognised that not all patients have to be discussed at the SSMDT. These will be patients whose treatment is standard and follows an agreed pathway as established by the members of the MDT. It is mandatory that all patients will be tabled at the MDT (for information). This will be for audit purposes.

LSMDTs will refer skin cancer patients needing care level 5 and 6 (as specified on page 10 of the IOG 2005) to the relevant SSMDT.

1.2.2 Referral to the lymphoma supraregional unit

All cases of nodular mycosis fungoides (Stage IIB or over) are discussed at the MDT and referred for consideration of total skin electron beam therapy (TSEBT) to the supranetwork skin MDT at St John’s Institute of Dermatology, Guy’s and St Thomas’ NHS Foundation Trust.

The following patients are to be referred:

- Patients with T-cell cutaneous lymphoma – cases of mycosis fungoides Stage IIB or above for consideration of TSEBT.
- Patients with erythrodermic cutaneous T-cell lymphoma for consideration of extracorporeal photopheresis.

Details of TSEBT treatments for cutaneous tumour Stage T3 N0–1M0 (IIB) and erythroderma Stage T4 N0–1M0 (III) can be found in Appendix 2.

Referrals to the supranetwork skin MDT should be made on the appropriate proforma and faxed to:

Skin Cancer Unit
St John’s Institute of Dermatology
South Wing , Stair C
St Thomas’ Hospital
Westminster Bridge Road
London SE1 7EH

Email: skintumour@gstt.nhs.uk

Fax: 020 7188 8145

The service provides: TSEBT, extracorporeal photopheresis and newly licensed high-cost biologic drugs. It offers and coordinates clinical trials and translational research programmes consistent with the UK Cutaneous Group (UKCLG) and the European Organisation for Research and Treatment of Cancer (EORTC) Cutaneous Lymphoma Group.
The MDT consists of:

- a dermatologist
- a clinical oncologist
- a dermatopathologist
- molecular diagnostics
- extracorporeal photopheresis consultant
- a haemato-oncologist
- a consultant radiologist
- specialist nurses.

The MDT works within UKCLG and EORTC guidelines/standards. It is represented on UKCLG and EORTC Cutaneous Lymphoma and Clinical Pathology Groups.

### 1.2.3 Clinics for immuno-compromised patients with skin cancer

#### St George’s Healthcare NHS Trust
- Holds a weekly skin cancer clinic for immuno-compromised patients (the renal transplant dermatology clinic). The combined plastic surgery, radiotherapy and dermatology clinic is held alongside this clinic which allows patients from the immuno-compromised clinic to be referred directly for opinions and/or treatment. A designated dermatologist is identified to run this clinic and is part of that person’s job description. A named CNS also supports this clinic.

#### Epsom and St Helier University Hospitals NHS Trust
- Has a clinic for immuno-compromised patients every Thursday and alternate Fridays at St Helier Hospital.

#### King’s College Hospital
- Runs a dedicated transplant clinic on the first Friday of every month with a see and treat surgical service. This clinic runs alongside the renal transplant clinic and can also see non-transplant related immunosuppressed patients.

#### Guy’s Hospital
- A transplant clinic at Guy’s Hospital is run alongside the renal clinic.

#### Imperial College Healthcare NHS Trust:
- Immuno-compromised patients are seen at Hammersmith Hospital where transplant services are also provided. St Mary’s Hospital runs a monthly clinic for immuno-compromised patients who are at a high risk of skin cancer or who have previously had skin cancer and require review.

#### Chelsea and Westminster NHS Foundation Trust:
- Patients are seen in the weekly multidisciplinary skin cancer clinic. Patients who are HIV+ and who have malignant melanoma and/or SCC are seen in this clinic by the consultant dermatologist and oncologists. There are also a number of HIV clinics.

#### Hillingdon Hospital
- Has clinic slots available for transplant patients, those with genetic syndromes, HIV and immunosuppressed patients.

### 1.2.4 Referral for Mohs surgery

Mohs micrographic surgery provides high tumour clearance rates, with tissue conservation. It is suitable for the treatment of the following tumours:

- BCC
- SCC
• dermatofibrosarcoma protuberans
• sebaceous carcinoma
• lentigo maligna.

Mohs surgery should only be performed by dermatological/plastic surgeons with appropriate fellowship training, working in collaboration with an MDT. Mohs surgery requires support from pathology technicians who have been specifically trained to cut Mohs sections. Both Mohs surgeons and pathologists who are reading the Mohs histology slides must understand the differences between conventional histology and Mohs histology and have suitable experience in reading frozen sections and the Mohs orientation of tissue.

Indications for Mohs surgery to treat BCC

• Poorly defined borders
• High-risk site i.e. H-zone where skin conservation is essential (this includes around the eyes, ears, nose, lips and chin)
• Aggressive histology, such as morphoeic, infiltrative or micronodular
• Perineural invasion
• Lymphovascular invasion
• Recurrent tumours (or incompletely excised)
• Large tumours usually greater than 2cm
• Immuno-compromised patients.

This is a guide and, as always, clinical discretion is needed. As more of the above elements are present, the need for Mohs surgery becomes more important. All cases are discussed at the appropriate MDT.

Indications for Mohs surgery to treat SCC

• Poorly defined borders
• High-risk site – as above
• Perineural invasion
• Lymphovascular invasion
• Recurrent or incompletely excised tumours
• Large tumours greater than 2cm
• Immuno-compromised patients
• Persistent Bowen’s disease at awkward sites (e.g. genitals, eyelid, scalp and nails).

Indications for Mohs surgery to treat dermatofibrosarcoma protuberans

In some patients with dermatofibrosarcoma protuberans (DFSP) Mohs should be considered for treatment. This will be discussed by the appropriate MDT. In many situations, surgery can be undertaken without Mohs.

Indications for Mohs surgery to treat lentigo maligna

Lentigo maligna occurs on chronically sun-exposed skin, which means that the borders of the tumour can be hard to define. Often the deeply pigmented area is surrounded by areas of lighter pigment or normal-looking skin, which can nevertheless contain tumour cells.
Equally, the margins of lentigo maligna can be difficult to define histologically, as atypical melanocytic cells can be found readily in the vicinity of the tumour – a so-called ‘field cancerisation’ effect.

As a result, ‘slow/paraffin’ Mohs is an excellent modality of examining the tumour margin and is recommended for these patients. However, the slow Mohs process means that patients will have an open surgical wound until the final results are available. Therefore, patient selection for this procedure is important as not all patients will be able to tolerate this. These cases must be discussed at the appropriate MDT as other modalities are available for their management.

Collaboration between the histopathologist and the Mohs surgeon is important in agreeing where the lesion’s margins lie, and the decision to resend more tissue (or not) should be made jointly.

Patients should be referred to and discussed at the appropriate MDT.

**Referral criteria**

- Patients with tumours which qualify by meeting the above criteria.
- Patient choice/anxiety (e.g. patients who are concerned about the aesthetic outcome/scar size).
- Patients who are suitable to have repeated local anaesthetic procedures (e.g. who are not needle phobic).
- Patients who are able to cope with repeated attempts at tumour clearance.
- Patients who are sufficiently mobile for repeated procedures.
- Patients who are able to tolerate wound care in the case of slow Mohs.

**Centres where Mohs surgery is undertaken:**

- Guy’s and St Thomas’ NHS Foundation Trust (St Thomas’ Hospital)
- King’s College Hospital NHS Foundation Trust
- Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)
- Croydon Health Services NHS Trust
- Chelsea and Westminster Hospital NHS Foundation Trust
- The Hillingdon Hospitals NHS Foundation Trust
- Ealing Hospital NHS Trust.

All patients for Mohs surgery are referred by direct letter or telephone call to the appropriate service. The following can take place:

1) Patient receives Mohs and reconstruction on the same site by Mohs surgeon

2) Patient receives Mohs by Mohs surgeon and reconstruction by a reconstruction surgeon on the same site

3) Patient receives Mohs by Mohs surgeon but has reconstruction by a reconstructive surgeon on a different site. In such cases, it is expected that there is close collaboration between both sites and the patient is fully informed of the process.
1.2.5 Clinical guidelines

In addition to the LCA Skin Cancer Clinical Guidelines, the following published guidelines should also be taken into consideration:


Final Version of 2009 AJCC Melanoma Staging and Classification C M Balch et al *Journal of Clinical Oncology* 2009 27(36): 6199-6206 [http://jco.ascopubs.org/content/27/36/6199.long](http://jco.ascopubs.org/content/27/36/6199.long)
2 Investigation and Management of Suspected Melanoma

Patients will present to their GP with a changing pigmented lesion. Patients should have a full skin examination and be examined for lymphadenopathy. At this stage, the GP can do one of the following:

- Reassure the patient and discharge them.
- Reassure the patient but point out signs to look for which may represent malignant change and request the patient to return. Inform patient of GP’s possible concern and expect patient to take appropriate action if lesion changes.
- Reassure the patient (as above) but take a photograph, one copy to be given to the patient and one to be kept by the GP. Once again advise that if change is noted the patient should return.
- Review the patient within 2 weeks in the event that the lesion is infected/traumatised. The lesion ideally should be covered by a dressing for this 2-week period.
- In patients who return regarding concern about the same lesion, consider referral.
- Refer to local plastic surgery/dermatology unit via the urgent suspected cancer route/2-week rule (2ww).
- There is no place for primary care to biopsy or excise suspicious lesions.

2.1 Investigations in secondary care

Patients are referred in via TWR and are seen by plastic surgeons or dermatologists.

In the clinic in secondary care, the following model is used:

- A full history is taken.
- The lesion may be photographed.
- The patient is asked to undress and is examined thoroughly in bright light with a magnifying glass or dermatoscope.
- The lesion is documented and, if deemed suspicious, excised.
- Where possible, the TWR clinic will offer an immediate biopsy service. If this is not possible, the biopsy will be performed as soon as possible.
- Biopsy is an excision biopsy (excising the lesion with a 2mm margin). If excision is not possible, then incision or punch biopsy is acceptable.
- When biopsy is undertaken, care is given to the orientation of scar with view to future excisions.
- The pathology request form will give the following details: name, age, site, hospital number, brief history, differential diagnosis and orientation suture if necessary.
- Patients are requested to return in 2–3 weeks for the results and should be encouraged to request their results if they do not hear within 4 weeks.
- If the pathology records melanoma, then patients are requested to return to the appropriate clinic.
- If the patient is seen in a Trust acting as a local skin cancer multidisciplinary team (LSMDT), then patients will be referred to the specialist skin cancer MDT (SSMDT) if they fulfil the guidelines for onward referral from LSMDT to SSMDT.
If the patient does not require onward referral, i.e. in situ melanoma or melanoma less than 1mm (stage IA), then definitive treatment can be carried out at that Trust.

Patients with a melanoma stage IB or greater should be offered a sentinel lymph node biopsy (SLNB) and referral to a centre with the necessary expertise. Patients should have it clearly explained that SLNB is offered as a staging procedure and be aware of the complications regarding surgery and false negative rate. Where excision takes place, then the depth of the excision is down to but not including the underlying fascia. Centres offering SLNB in the LCA are Guy’s and St Thomas’ NHS Foundation Trust, St George’s Healthcare NHS Trust, and Imperial College Healthcare NHS Trust (Charing Cross Hospital).

For patients referred through the Northwick Park SSMDT, SLNB is offered at the Royal Free London NHS Foundation Trust (RFH). RFH falls within London Cancer, but the unit follows equivalent guidelines.

2.1.1 Standards

- Surgical intervention should be carried out by an experienced dermatologist or a plastic surgeon who is a member of the MDT.
- Patients should be informed of the diagnosis, normally within 2 weeks of their first clinic attendance, together with an explanation of the chance of cure and what other treatment is required.
- Incomplete removal may compromise subsequent measurements of tumour thickness, so if an incisional biopsy is required, it should be designed to minimise this risk and should only be carried out by a member of the MDT. Incisional biopsies of pigmented lesions should not be carried out by GPs. Excisional biopsies are preferable to diagnostic shave biopsies, which should ideally be avoided.
- Good cosmetic results from surgery are important, especially since the majority of the lesions biopsied will turn out to be benign.

2.1.2 Staging

Accurate staging for melanoma is important as it determines treatment and prognosis.

**Table 2.1: American Joint Cancer Committee Staging For Melanoma (2009)**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Primary tumour (pT)</th>
<th>Lymph nodes (LN)</th>
<th>Mets (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>&lt;1mm, no ulceration, mitoses &lt;1/mm²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| IB    | <1mm with ulceration or mitoses ≥1/mm²  
1.01 to 2mm, no ulceration |                  |          |
| IIA   | 1.01 to 2mm + ulceration  
2.01 to 4mm, no ulceration |                  |          |
| IIB   | 2.01 to 4mm, plus ulceration >4mm, no ulceration |                  |          |
| IIC   | >4mm, plus ulceration |                  |          |
| IIIA  | Any Breslow thickness, no ulceration | 1–3 nodes       | Micrometastases |
| IIIB  | Any Breslow thickness, plus ulceration | 1–3 nodes       | Micrometastases |
### Stage Primary tumour (pT) Lymph nodes (LN) Mets (M)

Any Breslow thickness, no ulceration 1–3 palpable nodes Metastatic nodes

Any Breslow thickness, +/- ulceration No nodes In-transit or satellite metastasis/es

IIIC Any Breslow thickness, plus ulceration Up to 3 palpable lymph nodes

Any Breslow thickness, +/- ulceration 4 or more nodes or matted nodes or in-transit disease + lymph nodes

IV M1 Any Breslow thickness, plus ulceration Up to 3 palpable lymph nodes

M2 Skin, subcutaneous or distal nodal disease

M3 Lung metastases

M3 All other sites or any other sites of metastases with raised LDH

### 2.2 Management

The treatment for primary cutaneous melanoma is complete surgical excision with a margin of clinically normal skin. The size of this margin increases with the thickness of the primary tumour.

Excision margins are according to the British Association of Dermatologists (BAD) guidelines:

**Table 2.2: Guidelines for incision margins**

<table>
<thead>
<tr>
<th>Breslow thickness</th>
<th>Excision margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma in situ</td>
<td>5mm clinical margins to achieve complete histological excision</td>
</tr>
<tr>
<td>&lt;1mm</td>
<td>1cm</td>
</tr>
<tr>
<td>&gt;1–&lt;2mm</td>
<td>1–2cm</td>
</tr>
<tr>
<td>2–4mm</td>
<td>2cm</td>
</tr>
<tr>
<td>&gt;4mm</td>
<td>2cm</td>
</tr>
</tbody>
</table>

The excision margin should be determined by the MDT in conjunction with the patient’s wishes, taking into account the local tissue and the need for reconstruction and post-operative recovery.

Lentigo maligna (in situ disease) is ideally treated surgically but can be treated with immunomodulatory cream such as imiquimod should the patient be unsuitable for surgery. However, while there is published data to support this, the data are mixed and patients should be informed of this; patients should be monitored if they are not having surgical treatment. Mohs surgery can sometimes play a role (see above).
2.2.1 Stage IA
- This is melanoma <1mm without ulceration and a mitotic rate of <1/mm².
- Excision of 1cm down to but not including the underlying fascia.
- An orientation suture may or may not be used. Closure is according to the surgeon’s preference. Specimen is submitted for histology.
- The patient is reviewed with the results. On this occasion the patient is informed of the result. The patient’s skin is examined for any other suspicious lesion. Referral to the clinical nurse specialist is made to ensure that the patient is instructed in self-examination.
- According to the present BAD guidelines, these patients would be followed up for a year at 3-monthly intervals.

2.2.2 Stage IB
- This is melanoma <1mm with ulceration or mitotic rate of <1/mm² OR melanoma 1–2mm without ulceration.
- Patients will be offered wide local excision between 1–2cm down to but not including fascia.
- Patients with Stage IB can have SLNB discussed. It is a staging procedure. Patients must be made aware of the limitations of SLNB and also aware of complications and false negative risks.
- In certain circumstances the excision margin will be adjusted in order to take into account aesthetic circumstances. Also, if there is a choice between a procedure under local anaesthetic as a day case or a general anaesthetic, then the MDT will decide what will be the most beneficial for the patient.
- According to the present BAD guidelines, these patients would be followed up for 5 years at 3-monthly intervals for first 3 years and then 6-monthly for the subsequent 2 years.
- In certain MDTs, follow-up arrangements may vary in keeping with the provision of local services. However, the theme of intense follow-up for the first 3–5 years will be adhered to.

2.2.3 Stage IIA
- This is melanoma 1–2mm with ulceration OR melanoma 2–4mm without ulceration.
- Patients will be offered wide local excision between 1–2cm for thickness of 1–2mm and 2cm for thickness >2cm down to but not including fascia.
- In certain circumstances the excision margin will be adjusted to take aesthetic circumstances into account. Also, if there is a choice between a procedure under local anaesthetic as a daycase or a general anaesthetic, then the MDT will decide what will be the most beneficial for the patient.
- Patients with Stage IIA can be offered SLNB. It is a staging procedure. Patients must be aware of the limitations of SLNB and also aware of complications and false negative risk.
- According to the present BAD guidelines, these patients would be followed up for 5 years at 3-monthly intervals for first 3 years and then 6-monthly for the subsequent 2 years.
- In certain MDTs, follow-up arrangements may vary in keeping with provision of local services. However, the theme of intense follow-up for the first 3–5 years will be adhered to.
- Patients with ulcerated primaries could be considered for clinical trials looking at adjuvant therapy in the presence of ulcerated primaries.
2.2.4 Stage IIB

- This is melanoma 2–4mm with ulceration OR melanoma >4mm without ulceration.
- In this group the MDT may consider a role for further staging these patients as they are at considerable risk of developing haematogenous spread.
- Staging consists of computerised tomography MRI brain and neck and CT scan of thorax, abdomen and pelvis (TAP) and blood lactate dehydrogenase (LDH) levels or CT scan head and neck and CT TAP. Consideration can be given to chest X-ray, ultrasound scan abdomen and pelvis. MRI or positron emission tomography/CT (PET/CT) may be considered when agreed by the MDT.
- Patients will be offered wide local excision of 2–3cm down to but not including fascia.
- Patients with Stage IIB can have SLNB discussed. It is a staging procedure. Patients must be made aware of the limitations of SLNB and also made aware of complications and false negative risk.
- In certain circumstances the excision margin will be adjusted to take into account aesthetic circumstances. Also, if there is a choice between a procedure under local anaesthetic as a day case or a general anaesthetic, then the MDT will decide what will be the most beneficial for the patient.
- According to the present BAD guidelines, these patients would be followed up for 5 years at 3-monthly intervals for first 3 years and then 6-monthly for the subsequent 2 years.
- In certain MDTs, follow-up arrangements may vary in keeping with provision of local services. However, the theme of intense follow-up for the first 3–5 years will be adhered to.

2.2.5 Stage IIC

- This is for melanoma >4mm with ulceration.
- Management is as per Stage IIB.

Patients with Stage IIB and IIC and resected Stage IV melanoma should be seen 3-monthly for 3 years, then 6-monthly to 5 years, then annually to 10 years.

2.2.6 Management of melanoma Stage III disease

Stage III disease pertains to either micrometastatic or macrometastatic nodal disease or with in-transit disease.

Patients diagnosed as Stage III via SNLB

If SLNB is positive, then completion node dissection is advocated. Patients are informed that complete lymph node dissection does not offer an increased survival benefit but does offer improved local control and prolonged relapse-free survival. **Entry into suitable trials should be encouraged.**

Patients diagnosed with palpable lymph nodes

This group of patients either present having found a lump (most commonly) or are picked up with a lump in the surveillance clinics, either by direct palpation or on an imaging technique such as CT scan/PET/CT scan surveillance.

Fine needle aspiration cytology (FNAC) of nodes is recommended when there is clinical doubt about the significance of the nodes. This or an image-guided core biopsy may need to be repeated if there is a negative result but on-going suspicion.
Open biopsy is recommended when there is clinical suspicion even in the presence of negative FNAC 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.

In some circumstances, it is recommended to undertake an open biopsy of the node, submit to frozen section with the ability and patients permission to proceed to formal dissection if the frozen section is positive for melanoma.

For staging, a CT scan is requested (thorax, abdomen and pelvis) and MRI brain. If this is not appropriate, then chest X-ray and ultrasound abdomen and pelvis can be used. Blood tests including liver function tests (LFTs) and LDH are requested.

2.2.7 Surgery for melanoma Stage III (lymph node)

Radical lymph node dissections (LND) will only be performed by those with expertise in skin cancer surgery and only by member of a SSMDT. For axilla and groin, this must be performed within an SSMDT where one of the surgeons is a plastic and reconstructive surgeon. The surgeon must undertake at least 15 dissections per year (see IOG recommendations).

Pre-operative staging investigations should be carried out as listed previously. 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 are recommended. The decision as to whether or not surgery should proceed prior to scanning should be made after SSMDT discussion with an informed patient.

The block dissection specimen should be marked and orientated for the pathologist.

**Axilla**

Axillary LND should include all nodes in Levels I–III, and this may require either resection or division of pectoralis minor. All tissue is submitted for pathological review.

**Inguinal**

The management of inguinal lymph node metastases is controversial. The choice is made at the SSMDT. A superficial inguinal lymph node dissection should be considered in the presence of:

- a single clinically involved inguinal node or femoral triangle node
- a single positive superficial inguinal SLNB (Level 1b, Grade A).

A pelvic lymph node should be considered in the presence of:

- more than one clinically palpable inguinal and/or femoral triangle node/s
- CT, PET/CT or ultrasound evidence of more than one inguinal and/or femoral triangle node, or of pelvic node involvement
- more than one microscopically involved node at SLNB
- a conglomerate of inguinal or femoral triangle lymph nodes

It is hoped that the answer to this dilemma can be addressed by a forthcoming, prospective RCT (EAGLE Trial).
Cervical

Cervical nodal recurrence should be reviewed and treated either by surgeons in the SSMDT specialising in head and neck skin cancer including melanoma, or by a head and neck MDT with a special interest in melanoma.

A comprehensive and not a selective neck dissection should be performed. The term comprehensive allows either:

- a radical dissection of Levels I–V OR
- modified radical – the above, sparing the spinal accessory nerve, internal jugular vein and sternocleidomastoid muscle OR
- extended radical – radical dissection including parotid and/or posterior occipital chain.

The risk of recurrence is high (up to 28%) despite comprehensive surgery and so surgery may be combined with adjuvant radiotherapy. This is the only nodal group shown to have improved local recurrence rate with post-operative radiotherapy. If extracapsular spread is noted, then the management should be discussed at the SSMDT.

In exceptional cases, there may be a role for post-operative radiotherapy following dissections of axilla or groin but this will be decided by the SSMDT.

Lymph node surgery for skin cancer is undertaken only by those actively involved in the management of this disease, and who is a core member of the SSMDT or of a head and neck MDT.

The LCA is committed to ensuring that equity exists across the integrated cancer system. By ensuring this, this cohort of patients can be audited, entered into appropriate trials and outcome measures of those surgeons documented.

Sentinel lymph node biopsy (SLNB)

SLNB is only undertaken by those SSMDTs who are actively offering the service, and who undertake sufficient cases to keep them skilled. All units are strongly encouraged to enrol these patients into ongoing clinical trials.

The indications for SLNB are as follows:

- >1.00mm Breslow thickness (T2–T4 N0M0)
- <1.00mm Breslow thickness and
  - ulceration
  - mitotic rate ≥1/mm²
- no significant morbidity, young (<45 years)
- patient choice/anxiety
- entry into Stage III trials
- unknown thickness or positive deep margins (curette/shave)
- ambiguous diagnosis of melanocytic lesion (MUMP).
2.2.8 In-transit disease

Isolated limb infusion (ILI) is used for local recurrent melanoma involving limbs. It is a less invasive procedure than ILP (see below) but is for disease below the mid-thigh and for small volume disease. The decision to undertake ILI is made by the SSMDT.

Isolated limb perfusion (ILP) is offered only at The Royal Marsden. It is more invasive than ILI but can be used for bulky disease and higher up on the thigh. The decision to undertake ILP is made by the SSMDT.

2.2.9 Malignant melanoma with distant metastases

The treatment of distant metastases is palliative. Methods include:

- surgery
- chemotherapy
- immunotherapy
- radiotherapy
- isolated limb perfusion
- isolated limb infusion
- carbon dioxide laser vapourisation
- electrochemotherapy
- radio frequency ablation (RFA)
- combinations of the above.

The management of these patients must be within the SSMDT due to the complexity of the treatment, the need for a multidisciplinary input, research and audit.

Surgery is the treatment of choice and should be considered in those with solitary, accessible metastases.

Where possible, chemo- or immuno-therapy should be given within a clinical trial. Treatment options should be discussed with the patient for them to make their informed decision.

Please refer to Appendix 3 for guidelines for the diagnosis and management of advanced cutaneous malignant melanoma and Appendix 4 for the follow-up of high-risk cutaneous melanoma.
3 Investigation and Management of Squamous Cell Carcinoma

3.1 Investigation in primary care

Squamous cell carcinomas (SCCs) present as keratinising or crusted tumours that may ulcerate. Non-healing lesions larger than 1cm with significant induration on palpation may be SCCs. They should not be excised or biopsied in primary care and must be referred as an urgent 2ww referral (2-week rule) to a specialist dermatology/plastic surgery skin cancer service.

3.2 Investigation in secondary care

All cases of SCC are discussed at the local skin cancer multidisciplinary team (LSMDT) or the specialist skin cancer MDT (SSMDT).

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

- pathological pattern
- cell morphology
- degree of differentiation
- histological grade (as described by Broders)
- depth (thickness in mm)
- level of dermal invasion (as Clark’s scale, excluding layers of surface keratin)
- presence or absence of perineural, vascular or lymphatic invasion.

The margins of the excised tissue should be stained prior to tissue preparation to allow their identification histologically and comment should be made on the lateral and deep margins of excision.

Tumours should be given a pathological staging according to the American Joint Committee on Cancer (AJCC) criteria.

3.3 Treatment

There are three main factors influencing treatment:

- the need for complete removal or treatment of the primary tumour
- the possible presence of local ‘in-transit’ metastases
- the tendency for metastases to spread by the lymphatic system to local lymph nodes.

3.3.1 Surgery

Surgical excision is the treatment of choice for the majority of cutaneous SCC. Excision margins are undertaken according to the British Association of Dermatologists (BAD) guidelines (see section 1.2.5).

For clinically well-defined, low-risk tumours less than 2cm in diameter, surgical excision with a minimum 4mm margin around the tumour border is appropriate.
Larger tumours, high-risk tumours of Broders’ grade 2, 3 or 4, tumours extending into the subcutaneous tissue and those in high-risk locations (ear, lip, scalp, eyelids, nose) should be removed with a wider margin (6mm or more if more than 2cm diameter) or by Mohs micrographic surgery.

**Mohs micrographic surgery**

Mohs surgery provides an alternative method of clearing SCC tumours in anatomical sites where tissue preservation is critical (e.g. the eyelids, nose, ears and lips), which are also sites where there is increased potential for metastatic spread to arise.

The Mohs procedure for SCCs can be performed via the frozen method or the paraffin method, depending on the preference of the Mohs surgeon for each case.

**Curettage and cautery**

Reasonable cure rates have been reported in several studies and experience suggests that small (<1cm) well-differentiated, primary, slow-growing tumours arising on sun-exposed sites can be removed by experienced physicians with curettage. Conventionally, cautery or electrodessication is applied to the curetted wound and the curettage ± cautery cycle is then repeated once or twice. In principle, curettage could be combined with other treatments such as surgical excision, cryotherapy or radiotherapy; it is routinely undertaken to debulk the tumour prior to Mohs micrographic surgery. Curettage provides poorly orientated material for histological examination and no histological assessment of the adequacy of treatment is possible. However, all tissue should be submitted to pathology. On occasion, the pathologist may report a ‘high-risk’ SCC in which case further treatment may be indicated. It is not appropriate treatment for locally recurrent disease.

**Cryosurgery**

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.

3.3.2 **Radiotherapy**

Radiation therapy alone offers reported short- and long-term cure rates for SCC that are comparable with other treatments. Radiotherapy will, in certain circumstances, give the best cosmetic and/or functional result. This will often be the case for lesions arising on the lip, nasal vestibule (and sometimes the outside of the nose) and ear, among others. Certain very advanced tumours, where surgical morbidity would be unacceptably high, may also be best treated by radiotherapy (see Chapter 7 on Radiotherapy).

3.4 **Follow-up**

Early detection and treatment improves the survival of patients with recurrent disease. Some 95% of local recurrences and 95% of metastases are detected within 5 years. It would therefore seem reasonable for the patient who has had a high-risk SCC to be kept under observation for recurrent disease for this period of time. Patients should be, as far as possible, instructed in self-examination. Observation for recurrent
disease may be undertaken by the specialist primary care physician or by patient self-examination. The decision as to who follows the patient will depend upon the disease risk, local facilities and interests.

3.4.1 Metastatic squamous cell carcinoma

If there is clinical evidence of local or regional lymph node metastasis, this should be confirmed by fine needle aspiration cytology.

Patients should be staged pre-operatively by computerised tomography (CT) head, neck, thorax, abdomen and pelvis. For single or local regional metastases, surgery is the treatment of choice. Patients should be treated whenever possible by block dissection of the entire affected lymph node group.

3.4.2 Distant metastases

For patients with disseminated SCCs, the following should be documented:

- extent of spread (as assessed by CT or magnetic resonance imaging (MRI))
- assessment of the need for psychological support
- availability of care in the community
- assessment of prognosis.

All patients with metastatic cutaneous SCC should be referred to an oncologist and should be discussed at the appropriate SSMDT.

Patients with progressive symptomatic disease should have access to a specialist palliative care team.

3.5 Specialist palliative care (SPC)

Within the LCA, SPC teams offer a consultative service available within Trusts, hospices and community settings. Referral can be made by an appropriate healthcare professional, in contact with the patient (see Appendix 10 for SPC referral form).

All patients should have contact with a specialist nurse (usually their key worker) from referral into secondary care. SPC input should be available, when required, both at the multidisciplinary team meetings and at the initial consultation.

Patients who may benefit from SPC services should be identified, the referral discussed with the patient and carers and then referral made as soon as possible.

The SPC team within each Trust is available for advice about symptom management.

It is also important to consider whether, if it has not been done already, referral should be made to the relevant community SPC service for on-going support of the patient at home, following diagnosis in the outpatient department or hospital discharge. Again, the hospital SPC team can advise.

Further information about palliative care can be found in the Palliative Adult Network Guidelines (3rd edition, 2011) adopted by the LCA. These guidelines are available in hard copy and via http://book.pallcare.info.

Standard chemotherapy regimens are limited and include cisplatin and 5-fluorouracil chemotherapy agents. Trials using gemcitabine have been promising. Essentially the role of chemotherapy is limited and, if used, generally resembles protocol similar for small cell lung cancer.
Radiotherapy to bone metastases can provide short-term symptomatic control and has palliative value in patients with brain metastases.

Patients with large volume yield disease +/- extracapsular spread should be discussed at SSMDT regarding suitability for radiotherapy.
Figure 3.1: Pathway for referral of squamous cell carcinoma within the LCA

Patient presents with an SCC

**General Practitioner**
Must refer patient if treatment is indicated

**GPwSI Dermatology**
(accredited by PCT, member of LSMDT)
Must refer patient if treatment is indicated

**LSMDT**
- SCC
- SCC with +ve margins
- Recurrent SCC
- Radiotherapy
- Incompatible clinical/histological findings

**SSMDT**
- SCCs requiring plastic/reconstructive surgery
- Metastatic SCC
- Immunocompromised patients
- Genetically predisposed patients
- Mohs surgery
- Radiotherapy
- Trial patients
- Histology opinion
- Adjuvant therapy

Referral to LSMDT or SSMDT

Referral to SSMDT

Referral to LSMDT or SSMDT
4 Investigation and Management of Basal Cell Carcinoma

4.1 Diagnosis and investigation

Plastic surgeons/dermatologists can make a confident clinical diagnosis of basal cell carcinoma (BCC) in most cases. Diagnostic accuracy is enhanced by good lighting and magnification and the dermatoscope may be helpful in some cases. Biopsy is indicated when clinical doubt exists or when patients are being referred for a sub-specialty opinion, when the histological sub-type of BCC may influence treatment selection and prognosis.

4.1.1 ‘Low-risk’ and ‘high-risk’ tumours, patient factors and treatment selection

The recent development of more effective topical and non-surgical therapies has increased the treatment options for many low-risk lesions, although surgery and radiotherapy remain the treatments of choice for the majority of high-risk lesions.

Patient-specific factors which may influence the choice of treatment include general fitness, co-existing serious medical conditions, and the use of anti-platelet or anti-coagulant 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; for these patients, a palliative rather than a curative treatment regimen may be in their best interests.

4.2 Management

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, radiotherapy, photodynamic therapy (PDT)) do not allow histological confirmation of tumour clearance. These are generally used to treat low-risk tumours, although radiotherapy also has an important role in the management of high-risk BCC. Surgical excision with either intra-operative or post-operative 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.

In rare advanced cases, where the tumour has invaded facial bones or sinuses, major multidisciplinary craniofacial surgery may be necessary. There are few randomised 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.

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.

4.2.1 Surgical techniques

For a small (<20mm), well-defined BCC, 3mm peripheral surgical margins will clear the tumour in 85% of cases, and a ±5mm margin will increase the peripheral clearance rate to approximately 95%.

In contrast to small primary BCCs, morphoeic and large BCCs require wider surgical margins for complete histological resection. For primary morphoeic BCC, the rate of complete excision with increasing peripheral surgical margins is as follows: 3mm margin: 66%; 5mm margin: 82%; ±15mm margin: > 95%.
4.2.2 Radiotherapy
Radiotherapy is particularly suitable for:

- primary BCC
- surgically recurrent BCC
- adjuvant therapy
- those patients with high-risk disease who are unwilling or unable to tolerate surgery.

Radiotherapy is less suitable in patients:

- with multiple (>2) BCCs
- with radiation recurrent BCC
- with lower limb (below knee) BCCs.

4.2.3 Cryotherapy
Cryotherapy by an experienced practitioner is a good treatment for low-risk BCCs.

4.2.4 Mohs micrographic surgery
Indications include:

- tumour site (especially central face, around the eyes, nose, lips and ears)
- tumour size (especially if >2cm)
- histological sub-type (especially if infiltrative, morphoeic, micronodular or basosquamous)
- poor clinical definition of tumour margins
- recurrent lesions
- perineural or vascular involvement.

4.2.5 Topical immunotherapy with imiquimod
This appears to be effective in the treatment of small superficial BCCs – under supervision of dermatology/plastic surgery.

4.2.6 Photodynamic therapy
PDT can be used on primary superficial BCCs and small nodular lesions <2mm in depth.

4.3 Recurrent (previously treated) BCC
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 intra-operative frozen sections or, more commonly, using post-operative 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.
4.4 Follow-up

If the BCC has been adequately excised, there is a low risk of recurrence. These patients should be advised of sun protection and counselled on the 3-year risk of the development of a second primary tumour. This patient group should be suitable for self-monitoring or follow-up in primary care.

Patients treated for recurrent disease or with multiple BCCs should be followed-up for 3 years within either a primary or secondary care setting.

Please refer to Appendix 4 for guidelines on the treatment of cutaneous T-cell lymphoma and Kaposi’s sarcoma.

Figure 4.1: Pathway for referral of basal cell carcinoma within the LCA
5  Skin Cancer in Specific Anatomical Sites

Because the biological behaviour of skin cancer (especially malignant melanoma) is often very different to the other malignancies managed by site-specific multidisciplinary teams (MDTs) (e.g. colorectal or gynaecological MDTs), it is important that the management of skin cancer at special anatomical sites should have input from both MDTs. This is the case particularly if the local surgical treatment is to be instituted by a core member of the site-specific MDT. At all times the MDT must make the decision based on what is best for individuals. If a patient is referred to another MDT, then feedback will ensure that the care of the patient is available to audit and governance.

Specific arrangements are outlined below.

5.1 Anal and perianal skin cancer
- Tumours of the perianal skin that involve the anal canal (both squamous and adeno) will be referred to and managed by the anal MDT.
- Tumours of the perianal skin that do not involve the anal canal will be referred to and managed by the skin cancer MDT.
- Borderline cases will be reviewed in both MDTs and a decision made as to which MDT will continue and follow-up the management.

5.2 Skin cancer of external female genitalia
Vaginal lesions will be managed by the gynaecology MDT. Vulval/introitus lesions will be discussed by the gynaecology MDT following a referral from the dermatologist or from a local skin cancer MDT (LSMDT).

Following a discussion of clinicians from both MDTs, the most appropriate MDT will manage the case but may well require input from the other MDT for support, i.e. reconstruction, psychosexual support, vaginal (pelvic) examination under anaesthesia and colposcopy and oncology.

This decision will be documented by both MDTs.

5.3 Lymphoma arising within the skin
For lymphoma arising within the skin, the LSMDT will review the pathology. Following discussions, the LSMDT will make a decision if input is required from the haemato-oncology MDT, either at a MDT level or for onward referral to the appropriate haemato-oncology or skin cancer clinic. This decision will be documented by the MDT.

The patient must be discussed at the most appropriate MDT for that case. That decision is made locally by the initial MDT.

Occasionally patients will require total skin electron beam therapy (TSEBT). These patients are referred to St John’s Institute of Dermatology, Guy’s and St Thomas’ NHS Foundation Trust, although they may be treated at Mount Vernon Cancer Centre in conjunction with St John’s.

The supranetwork MDT team will review and where appropriate treat the following:
- patients with skin disease suggestive of cutaneous lymphoma but where the diagnosis has proved difficult to establish
SKIN CANCER IN SPECIFIC ANATOMICAL SITES

- patients with advanced stages of mycosis fungoides (Stage IIB–IV)
- any patients for consideration of trials, TSEBT, extracorporeal photopheresis and high-cost licensed drugs
- patients with other rare primary cutaneous T-cell lymphoma variants including Sézary syndrome.

Table 5.1: Clinical pathway for cutaneous lymphomas

<table>
<thead>
<tr>
<th>Category</th>
<th>Specialist MDT</th>
<th>Supra-network MDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk (IA-IIA) MF</td>
<td>Required</td>
<td>Optional</td>
</tr>
<tr>
<td>Intermediate (IA-IIA) MF</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>Stage III erythrodermic MF/SS</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>High risk (IIB/IV) MF/SS</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>pcCD30+/lymphoproliferative disorders</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>CTCL variants</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>CBCL</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

Source: NICE (2006), Improving Outcomes for People with Skin Tumours including Melanoma.

For further information on cutaneous T-cell lymphoma, please refer to Appendix 5.

5.4 Head and neck skin cancers

These skin cancers are discussed at the head and neck MDT or skin MDT depending on who has care of the patient. Appropriate referral is made to the relevant MDT if specialist head and neck or skin management is required.

Melanoma arising on the cutaneous surface should be referred directly to the melanoma specialist skin cancer MDT (SSMDT) or may be managed in the LSMDT if small and thin and there are appropriate surgical specialties within that MDT.

Periocular and ocular skin cancers are discussed at the LSMDT/SSMDT. Melanomas arising on the cutaneous surfaces of the eyelids should be referred directly to the melanoma SSMDT. Ocular melanoma will be referred to Moorfields Eye Hospital, as this is a supraregional centre for the management of ocular melanoma.

5.5 Sarcoma involving skin

Sarcomas arising in the dermis are rare. Subcutaneous sarcomas occur more commonly and should be managed by the sarcoma MDT as for other extremity and truncal sarcomas. The sarcoma MDT will be informed of all new skin sarcomas, excluding Kaposi’s sarcoma, including details of the pathology and treatment undertaken.

The sarcoma MDT will review all new cases except fully resected dermatofibrosarcoma protuberans (DFSP) and will review all recurrences.

Sarcoma arising from within the dermis (DFSP and cellular variant of dermatofibroma) can be managed within the SSMDT.
Sarcomas which are large or involve or penetrate the superficial fascia, and those of histological types potentially requiring chemotherapy, should be referred to the sarcoma MDT.

Any patient with metastatic carcinoma of unknown origin should be referred for discussion by the carcinoma of unknown primary MDT.

5.6 Urology/penile and skin cancer

For cancer occurring on the prepuce, glans, penis and urethra, care will be provided by the penile MDT. For cancer occurring on the skin of the shaft and scrotum, the skin MDT or penile MDT will provide care. Where there are borderline cases, then both MDTs will discuss the cases.

Following a discussion at the individual MDT, the MDT will make a decision if input is required from the other MDT, either at a MDT level or for onward referral to the appropriate urology/penile or skin cancer clinic. This decision will be documented by the MDT.

The patient should be discussed at the most appropriate MDT for that individual case. That decision is made locally by the initial MDT.
6  Children and TYA Pathways

6.1  Children below the age of 16 years

All children with melanoma must be discussed in the specialist MDT and in the paediatric MDT.

If referred with suspected melanoma/skin cancer prior to excision of skin lesion, children in South Thames should be referred to the melanoma service at St George’s Hospital. Children in North West London should be referred to the melanoma service at the Royal Free Hospital.

If a lesion has already been removed and malignancy proven, refer to the paediatric principal treatment centre (PTC) for assessment, discussion in paediatric and site specific MDT and management plan.

If a malignant lesion is removed at St George’s or the Royal Free, patients should be seen at least once at the paediatric PTC.

For all children with malignant skin lesions, follow up to be planned on an individual basis by discussion between melanoma and PTC teams.

Systemic therapy for melanoma must be delivered in the paediatric PTC.

The joint PTC for children aged 1 to 16 years for South Thames is The Royal Marsden (Sutton)/St George’s Hospital.

The PTC for North Thames (including North West London) is Great Ormond Street Hospital (<13 years)/University College London Hospital (13-24 years).

Please see Appendix 7 for contact information for the children’s PTCs.

6.2  Teenagers and young adults

All teenagers and young adults (TYA) with melanoma should be discussed in the specialist MDT and in the TYA MDT.

For TYA patients with melanoma, follow adult guidance:

- If low risk (Breslow thickness <1mm and no poor prognostic features), can be managed in referring centre, but patient should be made aware of TYA services (can be actioned via TYA MDT).
- Higher risk patients (Breslow thickness ≥1mm or poor prognostic markers) aged 16–18 should be referred to the TYA principal treatment centre (RMH); patients aged 19–24 have a choice of TYA principal treatment centre or TYA designated hospital.

Systemic therapy in patients aged 16–18 must be delivered in the TYA principal treatment centre.

The PTC for TYA for South Thames is The Royal Marsden (Sutton).

The PTC for North Thames (including North West London) is University College London Hospital.

All patients within this age range, regardless of place of care, should be referred to the TYA MDT at the relevant PTC.

Please see Appendix 6 for information about making a referral and for contact information for the PTC and TYA designated centres in the LCA.
7 Pathology Guidelines for Diagnosis and Assessment of Skin Cancer

The LCA adopts in principle the evidence-based component of the current Royal College of Pathologists’ Standards and Datasets for Histopathology Reporting on Cancers and Tissues Pathways, in particular the following documents:

- Dataset for the histological reporting of primary cutaneous adnexal carcinomas and regional lymph nodes, February 2013.
- Dataset for the histological reporting of primary cutaneous basal cell carcinoma (2nd edition), October 2012.
- Dataset for the histological reporting of primary cutaneous malignant melanoma and regional lymph nodes (2nd edition), November 2012.
- Dataset for the histological reporting of primary cutaneous Merkel cell carcinoma and regional lymph nodes (2nd edition), October 2012.
- Dataset for the histological reporting of primary cutaneous squamous cell carcinoma and regional lymph nodes (2nd edition), December 2012.
- Dataset for the histological reporting of primary cutaneous squamous cell carcinoma and regional lymph nodes, October 2012.

It is recommended that all melanoma and non-melanoma skin cancers are staged according to the American Joint Committee on Cancer (AJCC) Cancer Staging Manual, 7th edition.

7.1 Melanoma

The clinical request form should ideally include:

- previous relevant history
- type of specimen (punch/incision/excision/re-excision)
- current clinical history
- if re-excision, it is helpful to have the original report, particularly if the re-excision is occurring at another hospital.

Processing for histopathology should ensure correct orientation of the specimen and serial sectioning of the entire lesion. Ideally, large complex specimens should be photographed.

Pathology reports should ideally include:

- clinical site
- specimen type
- histopathological sub-type
- tumour thickness (mm)
- level of invasion for thin melanomas
- radial or vertical growth phase
- presence or absence of regression
assessment of mitotic activity, ulceration, vascular and lymphatic invasion, microsatellite formation
- presence or absence of a co-existent naevus +/- dysplasia
- lymphocytic infiltrate
- distance to margins
- AJCC pT stage.

7.2 Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC)

The clinical request form should ideally include:
- previous relevant history (e.g. Gorlin’s syndrome)
- type of specimen (punch/incision/excision/re-excision/curette/shave)
- current clinical history
- if re-excision then it is helpful to have the original report, particularly if the re-excision is occurring at another hospital
- immunosuppression or previous radiotherapy.

Pathology reports for BCC should include:
- description of the growth pattern – low risk/high risk
- diameter (either as macro or micro description)
- level of invasion (for high-risk sub-types)
- distance from tumour to resection margins
- presence or absence of perineural or lymphovascular invasion (for high-risk types)
- AJCC pT stage.

Pathology reports for SCC should include:
- degree of differentiation
- cell morphology
- diameter of tumour
- depth of invasion, Clark’s level
- presence or absence of perineural or lymphovascular invasion
- distance from tumour to resection margins
- histological assessment of actinic keratosis or Bowen’s disease should specifically exclude invasive SCC
- AJCC pT stage.
Table 7.1: High-risk features for the primary tumour (T) staging

<table>
<thead>
<tr>
<th>Depth/invasion</th>
<th>&gt;2mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clark level ≥4</td>
</tr>
<tr>
<td></td>
<td>Perineural invasion</td>
</tr>
<tr>
<td>Anatomic location</td>
<td>Primary site: ear</td>
</tr>
<tr>
<td></td>
<td>Primary site: non-hair-bearing lip</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Poorly differentiated or undifferentiated</td>
</tr>
</tbody>
</table>

7.3 Adnexal tumours

The clinical request form should ideally include:

- type of specimen (punch/incision/excision/re-excision/curette/shave).

Pathology reports for adnexal tumours should include:

- histological sub-type
- presence of invasion
- grade of differentiation – as per the Royal College of Pathologists guidelines
- thickness >2mm
- invasion ≥Clark level 4
- if yes, specify level/tissue: fat, muscle, fascia, perichondrium cartilage, paratendon/tendon, periosteum, bone
- lymphovascular invasion
- perineural invasion
- background benign adnexal tumour present
- if yes, specify type
- margins – peripheral and deep
- AJCC pT stage.

Table 7.2: High-risk features for the primary tumour (T) staging

<table>
<thead>
<tr>
<th>Depth/invasion</th>
<th>&gt;2mm</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>Primary site: non-hair-bearing lip</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Poorly differentiated or undifferentiated</td>
</tr>
</tbody>
</table>
7.4 Merkel cell carcinoma

The clinical request form should ideally include:

- type of specimen (punch/incision/excision/re-excision/curette/shave).

Pathology reports for Merkel cell carcinomas should include:

Table 7.3: Pathology report for Merkel cell carcinoma

- If invasion is present: depth of invasion > subcutaneous fat (Clark level 5):
  - if yes, specify tissue
    (fat/muscle/fascia/muscle/perichondrium/cartilage/paratendon/tendon/
    periosteum/bone)
- In-transit metastasis
- Lymphovascular invasion
- Presence of second malignancy with MCC in skin:
  - if yes, specify diagnosis (provide relevant dataset)
- Margins – peripheral and deep:
  - maximum diameter ≤20mm, >20–50mm, >50mm
- TNM classification.

<table>
<thead>
<tr>
<th>Immunohistochemistry</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>AE1/AE3</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>CAM 5.2</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>TTF-1</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
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<td>□</td>
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<td>□</td>
</tr>
<tr>
<td>Melan-A</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

7.5 Tertiary review

The following recommendations are not prescriptive or limiting.

Making considerations not to lengthen the patient journey would be useful depending on the circumstances of each case.

As a general guideline, in no particular order, the following options are available:

- **Adnexal skin cancer**: St John’s Institute of Dermatology; St George’s Hospital.
- **Lymphoid malignancies**: St John’s Institute of Dermatology; St George’s Hospital; The Royal Marsden; Hammersmith Hospital; St Thomas’ Hospital. Each specialist skin cancer multidisciplinary team (SSMDT) should have a named pathologist for cutaneous lymphoma.
- **Soft tissue malignancies**: The Royal Marsden; St John’s Institute of Dermatology except for dermatofibrosarcoma protuberans, which may be dealt with locally.

- **Access to molecular pathology techniques**: St George’s Hospital; St John’s Institute of Dermatology; The Royal Marsden Hospital; Hammersmith Hospital.

- **Malignant melanoma**: St George’s Hospital; St John’s Institute of Dermatology; Charing Cross Hospital.

### 7.5.1 Referral to the multidisciplinary team

The group recommends that, where possible, the histopathologist core member/members should bring to the attention of the MDT co-ordinator for the local skin cancer MDT (LSMDT) any skin cancer that requires discussion as per the NICE Improving Outcomes guidelines. This should reduce delay in discussion and provide a seamless pathway experience for the patient.

Reports from cases excised or biopsied by GPs and GPs with a specialist interest that turn out to be a squamous carcinoma or malignant melanoma need to have a note advising referral to a dermatologist or a plastic surgeon who is a core member of the LSMDT.
8 Radiotherapy

This guidance is for clinical oncologists, therapy radiographers, physicists and mould room technicians. The treatment patients receive is customised to their individual requirements and this may entail close consultation between clinicians, radiographers, mould room technicians and physicists.

8.1 Radiotherapy for non-melanomatous skin cancer

8.1.1 Indications for radiotherapy

- Preferred for lesions that would require reconstructive surgery, where irradiation may be considered to produce better cosmesis, e.g. nose, upper and lower eyelid (preferably avoiding the middle third of the upper eyelid), the lip and lesions involving the commissure of mouth, the nasolabial sulcus, lesions arising in the pre- and post-auricular areas and the ear.
- Large superficial lesions.
- Older patients.
- Patients who refuse or are unfit for surgery (radiotherapy avoids anaesthesia).
- Post-surgery, for incomplete/marginal excision, perineural invasion.

Radiotherapy is not normally used in the following circumstances as some skin sites tolerate radiotherapy poorly:

- sites of previous burns
- sites of prior radiotherapy
- fragile, ‘tissue-paper’ skin after steroids
- areas of vascular insufficiency
- the middle third of the upper eyelid
- the skin of the back overlying the spine (this being an area of skin placed under pressure, leading to compromised healing and late skin necrosis)
- the skin overlying the shin and malleoli of the lower leg (the skin is under tension and there may be impaired healing)
- patients with ataxia telangiectasia, xeroderma pigmentosa.

In patients with squamous cell or basal cell carcinoma of the skin, clinically uninvolved regional nodes are not irradiated electively.

8.2 Investigations

- Histology/cytology (skin scrape, punch biopsy, excision biopsy)
- Fine needle aspiration of enlarged lymph nodes
- Imaging in high-risk sites to delineate deep extent and bone or cartilage involvement.
8.3 Dose prescriptions

Prescriptions are applied doses (Dmax) for photons, and to the 100% isodose for electrons (follow ICRU guidelines).

Doses depend upon lesion size, histology and patient characteristics.

8.3.1 Basal cell carcinoma – orthovoltage doses

18Gy in 1# for small tumours where cosmesis is relatively unimportant.

32.5Gy in 5# over 1 week for small lesions ≤4cm diameter, but not when over cartilage.

40.5Gy in 9# over 2–3 weeks for target size up to 5–6cm diameter; this can be given as alternate day fractions over a 3-week period if patient access to hospital is limited, or in the elderly.

55Gy in 20# over 4 weeks for target size <6cm, in areas of poor radiation tolerance.

50Gy in 15# over 3 weeks when target is between 4 and 6cm diameter and not in an area of poor radiation tolerance.

60Gy in 30# over 6 weeks for target size >6cm in areas of poor radiation tolerance.

8.3.2 Squamous cell carcinoma – orthovoltage doses

45Gy in 10# over 2 weeks for target size up to 5–6cm diameter; this can be given as alternate day fractions over a 3-week period if patient access to hospital is limited.

55Gy in 20# over 4 weeks for target size <6cm diameter, in areas of poor radiation tolerance.

60Gy in 30# over 6 weeks for target size >6cm at sites of poor radiation tolerance.

8.3.3 Post-operative radiotherapy

To be delivered for +ve margins, and considered for margins <1mm and associated high-risk features such as perineural invasion dose.

40Gy in 10# over 2 weeks, if small volume.

50Gy in 20# over 4 weeks if skin flap, or other at-risk features.

Electron doses are prescribed to 100%.

8.4 Treatment of Bowen’s disease\textsuperscript{6,7}

This is also known as squamous cell carcinoma in situ and is generally treated by dermatologists. Cases may be referred for radiotherapy when non-responsive areas become troublesome to the patient and are associated with thickening, pain and bleeding. Guidelines from the British Association of Dermatologists suggest that treatment of Bowen’s disease of the lower limb with radiotherapy should be avoided.\textsuperscript{6}

**Dose:** Large areas or areas of poor radiation tolerance: 50Gy in 25# over 5 weeks. Smaller lesions can be treated with 40.5Gy in 9#.
8.5 Mycosis fungoides (cutaneous T-cell lymphoma)

For small localised plaques and tumours, treatment with low energy photons adequate. Planning target volume (PTV) = gross tumour volume (GTV) + 0.5 to 1cm margins; margins tend to be smaller as these patients are often retreated.

Dose: 8Gy in 2# OR 12Gy in 3# treating daily.

For a larger or thicker tumour or collection of plaques, and particularly if the area is over a joint consider treatment with electrons.

Dose: 20Gy in 5# over 1 week OR 30Gy in 10# over 2 weeks.

8.6 Cutaneous angiosarcoma

Cutaneous angiosarcoma is a rare and aggressive endothelial-derived sarcoma usually affecting the elderly. Combined modality approach is often required, including surgery, radiotherapy and chemotherapy. All patients should be discussed in the sarcoma multidisciplinary team (MDT).

8.6.1 Radiotherapy technique

Photons or electrons are used as appropriate. A customised cut out may be required. A margin of at least 1cm is required as sub-microscopic disease can extend beyond clinical tumour margin.

Dose: 55Gy in 20# over 4 weeks OR 60Gy in 30# over 6 weeks.

8.7 Primary cutaneous B-cell lymphoma (PCBCL)

PCBCL is an indolent form of lymphoma with a good prognosis. Although local cutaneous recurrences are observed in 25% to 68% of patients, dissemination to internal organs is rare. Five-year survival rates typically range from 89% to 96%. Overly aggressive treatment of PCBCL has not been shown to improve survival or prevent relapse. Radiation therapy is the treatment of choice for localised disease at presentation or on relapse. Polychemotherapy should be reserved for involvement of non-contiguous anatomic sites or those with extracutaneous spread.

8.7.1 European Organisation for Research and Treatment of Cancer (EORTC) classification of PCBCL

Indolent: follicle centre B-cell lymphoma (most common)

marginal zone B cell lymphoma

Intermediate: large B-cell lymphoma of the leg

Provisional: intravascular large B-cell lymphoma, plasmacytoma.

Once the diagnosis of PCBCL is established, history, physical examination and staging investigations should be performed to rule out systemic involvement.

8.7.2 Radiotherapy technique

Photons or electrons as appropriate. PTV = GTV + 2–3cm margin.

Dose: 15Gy in 5# over 1 week OR 20Gy in 5#.
8.8 Lentigo maligna

This is a non-invasive melanotic lesion generally occurring on the face. Treatment with radiotherapy is preferred in areas of cosmetic and functional importance and this can achieve local control. Although this is generally a flat lesion it has irregular borders with varying degrees of pigmentation and a customised cut out is usually required.

PTV = GTV + 1cm margin laterally and 0.5cm deep margin.

Dose: 45Gy in 10# over 2 weeks with 60–160kv photons.

8.9 Radiotherapy for melanoma

8.9.1 Adjuvant nodal irradiation

Irradiation of the post-operative lymph node basin may be considered for local control after discussion with the patient of lymphoedema risk and according to criteria defined in the Tasmanian Radiation Oncology Group (TROG) 02.01.

>=1 involved parotid lymph node

OR >=2 involved cervical or axillary lymph node

OR >=3 inguinal lymph node

OR any ECS

OR any lymph node >3cm cervical or >4cm inguinal/axillary.

Treatment fields are defined in Burmeister et al.10 The prescribed dose is 48Gy in 20#.

8.9.2 Metastatic disease

As the metastatic presentation of this disease can be myriad, the treatment should be individualised to suit the patient and the treatment regimen should be discussed with the consultant. Treatment intent is palliative. Some commonly used schedules for cutaneous disease include the following:

30–36Gy in 6Gy per # once weekly over 5–6 weeks.

20Gy in 5# treating daily over 1 week.

30Gy in 5# with 2# given each week.

8–10Gy single # especially in poor performance status patients where rapid control of symptoms such as bleeding is required.

8.10 Merkel cell carcinoma11

These are rare neuroendocrine tumours arising from the mechanoreceptors of the basal epidermis that are particularly aggressive with a propensity for head and neck and the extremities. Causative factors include exposure to sunlight and immunosuppression. The tumour has many similarities to small-cell carcinoma of the lung, with intrinsic sensitivity to radiotherapy and chemotherapy and an aggressive metastatic potential.
8.10.1 Staging
IA – disease confined to skin and <2cm in diameter
IB – disease confined to skin and >2cm in diameter
II – involvement of regional lymph nodes
III – metastatic disease.

8.10.2 Treatment
Surgery is the initial treatment of choice. Most groups advocate a 2–3cm tumour-free margin around the primary lesion when technically possible (there are no controlled trials comparing different margins), but this is often difficult to achieve in the head and neck region. Many authors recommend post-operative radiotherapy on the basis of retrospective comparison of patients treated with surgery alone with those treated with surgery and post-operative radiotherapy.\textsuperscript{12,13} The addition of radiotherapy reduced the local failure from 39% to 26% and the regional failure from 46% to 22%. Radiation volumes have included the GTV with generous margins to ensure that the dermal lymphatics surrounding the primary are treated to full dose. The doses used have varied from 45Gy to 60Gy, with higher doses being applied to areas of bulky disease.

Treatment of regional draining lymph nodes has been recommended, although prophylactic node dissection or radiotherapy has not been shown to influence overall survival. Sentinel node biopsy has been proposed to identify the risk of recurrence and minimise the need for node dissection. The presence of distant metastases carries a grave outlook, with median survival being only 9 months. Treatment intent is purely palliative. Radiation can be used to palliate bone and brain secondaries, and for advanced cutaneous deposits that are bleeding or fungating.

The role of adjuvant chemotherapy remains undefined. Overall response rates to combination chemotherapy (usually platinum based) for surgically unresectable distant metastatic disease are generally high, although responses are transient.

8.10.3 Radiotherapy technique
Radical: Photons or electrons are used depending on depth, site and size of lesion to be treated.
PTV = GTV + 3–5cm.
Dose: 45–60Gy over 5–6 weeks (higher doses for residual or bulky disease).
Palliative: 20Gy in 5# over 1 week.

8.10.4 Management of unscheduled treatment interruptions
Patients undergoing radical radiotherapy, given with curative intent, for squamous cell skin cancer are managed in accordance with the guidelines of the Royal College of Radiologists regarding prolongation of treatment. This guidance classifies this patient group as category 1 for which there is very strong evidence that prolongation of treatment affects outcome.

Treatment will not be prolonged by more than 2 days except in the case of a need to manage specific treatment-related complications, which will be dealt with on an individual basis by the clinical oncologist.


## 9 Imaging Guidelines for Diagnosis and Assessment of Skin Cancer

### 9.1 Malignant melanocytic lesions

**Cancer area:** Skin cancer  
**Cancer type:** Malignant melanocytic lesions (melanoma, Merkel cell)

<table>
<thead>
<tr>
<th>Imaging modality</th>
<th>Indications and notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Staging</strong></td>
<td></td>
</tr>
<tr>
<td>Sentinel lymph node biopsy (SLNB)</td>
<td>Guided by pre-operative sentinel lymph node lymphoscintigraphy. For melanoma &gt;1mm Breslow thickness and &lt;1mm if aggressive histology (ulceration, mitotic rate &gt;1 per high power field) with no clinical evidence of regional nodal or distant metastases. Patients with melanoma &gt;4mm Breslow thickness need staging computerised tomography (CT) before SLNB to exclude nodal and distant metastases.</td>
</tr>
<tr>
<td>CT head, neck, chest, abdomen and pelvis</td>
<td>Patients with melanoma &gt;4mm Breslow thickness being considered for SLNB. Following positive SLNB if melanoma &lt;4mm. Any patient at presentation who has clinical signs/symptoms suspicious of nodal or distant metastases.</td>
</tr>
<tr>
<td>Ultrasonography +/- fine needle aspiration (FNA)</td>
<td>Enlarged or borderline lymph nodes in expected regional drainage basin either at presentation or when restaging recurrence. Unusual mass lesions/not amenable to FNA without image guidance. Indeterminate liver lesions on CT and magnetic resonance imaging (MRI) – alternatively repeat CT in 3 months.</td>
</tr>
<tr>
<td>MRI</td>
<td></td>
</tr>
<tr>
<td>Bone scan</td>
<td>Selected cases for problem solving.</td>
</tr>
<tr>
<td>Positron emission tomography (PET) CT</td>
<td>Selected cases following multidisciplinary team (MDT) discussion for problem solving, prior to surgery for recurrent nodal disease.</td>
</tr>
</tbody>
</table>
LCA SKIN CANCER CLINICAL GUIDELINES

### Imaging modalities

<table>
<thead>
<tr>
<th>Surveillance</th>
<th>Indications and notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Patients with thin melanoma treated by wide local excision alone and those patients with negative SLNB do not require regular imaging surveillance.</td>
</tr>
<tr>
<td>CT head, neck, chest, abdomen and pelvis</td>
<td>If clinical evidence of regional nodal recurrence and/or distant metastases, or as part of chemotherapeutic trial.</td>
</tr>
</tbody>
</table>

#### Techniques:

<table>
<thead>
<tr>
<th>Area scanned</th>
<th>Oral contrast</th>
<th>IV contrast</th>
<th>Delay/s</th>
<th>Max slice thickness</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>Post-contrast head, neck, chest, abdomen and pelvis</td>
<td>II water</td>
<td>vol/sec</td>
<td>Arterial phase chest, portove-nous phase abdomen and pelvis</td>
<td>5mm (reformat from thinner slices for MDCT)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ml, 3ml/sec</td>
<td>Arterial phase chest, portove-nous phase abdomen and pelvis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Sequence</th>
<th>Plane</th>
<th>Slice thickness</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI</td>
<td></td>
<td></td>
<td></td>
<td>Scanning technique depends on clinical question.</td>
</tr>
</tbody>
</table>

#### Other

**Sentinel lymph node lymphoscintigraphy:** 20–40MBq technetium-99 nanocolloid injected intradermally around the excision site. Dynamic series to identify lymphatic tracks, high count static images of sentinel nodes, survey of limb/trunk to look for aberrant sentinel nodes, Co-57 flood source views, depth estimation of sentinel nodes, sites of sentinel nodes marked on overlapping skin in shortest skin-node projection. Nomenclature for marking sentinel nodes should be agreed with surgical team and reporting pathologists.

#### CD format

Images and reports required 48 hours prior to MDT to allow sufficient time for loading on to PACS and radiologist review.
### 9.2 Non-melanoma skin cancer

**Cancer area:** Skin cancer  
**Cancer type:** Non-melanoma skin cancer (e.g. squamous cell carcinoma)

<table>
<thead>
<tr>
<th></th>
<th>Imaging modality</th>
<th>Indications and notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>None</td>
<td>Diagnosis made by surgical excision.</td>
</tr>
<tr>
<td><strong>Staging</strong></td>
<td>Chest X-ray</td>
<td>Advanced disease, for suspected pulmonary metastases.</td>
</tr>
<tr>
<td></td>
<td>CT, MRI</td>
<td>If required for surgical planning of locally invasive lesion and/or clinical suspicion of metastases.</td>
</tr>
<tr>
<td></td>
<td>Ultrasonography +/-FNA</td>
<td>For problem solving of individual lesions identified by CT/MRI.</td>
</tr>
<tr>
<td></td>
<td>Bone scans</td>
<td>For suspected bony metastases.</td>
</tr>
<tr>
<td><strong>Surveillance</strong></td>
<td>None routine. Imaging as for staging if clinical recurrence, locally aggressive disease, clinical suspicion of progressive metastases.</td>
<td></td>
</tr>
</tbody>
</table>

**Techniques:**

<table>
<thead>
<tr>
<th></th>
<th>Area scanned</th>
<th>Oral contrast</th>
<th>IV contrast</th>
<th>Delay/s</th>
<th>Max slice thickness</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CT</strong></td>
<td>Depends on site of tumour</td>
<td></td>
<td>vol/sec</td>
<td></td>
<td>5mm (reformat from thinner slices for MDCT)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100ml at 3ml/sec</td>
<td></td>
<td></td>
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<tr>
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<th>Slice thickness</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MRI</strong></td>
<td>Depends on site of tumour</td>
<td></td>
<td></td>
<td></td>
<td>Scanning technique depends on clinical question</td>
</tr>
</tbody>
</table>

**Other**

**CD Format**  
Images and reports required 48 hours prior to MDT to allow sufficient time for loading on to PACS and radiologist review.
10 Skin Cancer Survivorship Guidelines

As cancer treatments become more effective, more people are living with and beyond cancer with specific needs as a direct result of the cancer and its treatment. The consequences of cancer treatment are dependent on multiple factors and affect each person differently. Consequences may be physical (e.g. cardiovascular conditions, impact on fertility, bone health and gastrointestinal); emotional and psychological (e.g. anxiety, self-confidence and depression); social; spiritual; or cognitive. They can impact on every aspect of a person and on their family’s lives, from the ability to work, through to the ability to have a family or to participate in social activities. It is widely acknowledged that cancer survivors have a multitude of unmet needs following treatment, with a majority still having some needs 6 months later. Good survivorship care enables the person to live as full and active a life as possible.

Survivorship can be defined as:

“cover[ing] the physical, psychological and economic issues of cancer, from diagnosis until end of life. It focuses on the health and life of a person with cancer beyond the diagnosis and treatment phases. Survivorship includes issues related to the ability to get health care and follow-up treatment, late effects of treatment, second cancer and quality of life. Family members, friends and caregivers are also part of the survivorship experiences.”

National Cancer Institute, Dictionary of Cancer Terms, definition of ‘survivorship’
(www.cancer.gov/dictionary?CdrID=445089)

The National Cancer Survivorship Initiative (NCSI) vision document\(^1\) mandated five shifts in care for individuals completing cancer treatment. NCSI advocates cancer being treated as a chronic illness, with patients empowered and supported to take an active role in their care. Improving Outcomes: a Strategy for Cancer\(^2\) states that people living with and beyond a cancer diagnosis should have their full needs addressed to prevent long-term disability, enabling them to live a full, active, good quality life for as long as possible. Work within the NCSI has to date focused on survivorship from the end of treatment, but its report, Living With and Beyond Cancer: Taking Action to Improve Outcomes,\(^3\) acknowledges that survivorship care from the point of diagnosis is also vital. It challenges services to develop further and focuses on five different areas:

- information and support from diagnosis
- promoting recovery
- sustaining recovery
- managing consequences
- supporting people with active and advanced disease.

The importance of good survivorship care is well known: those who have unmet needs are 20% more likely to visit their GP and twice as likely to attend A&E than age-matched healthy people. They are more likely to be unemployed and many report economic hardship. Much has been achieved both nationally and locally to address this agenda. It is essential that in the LCA our patients have access to high-quality, equitable survivorship services on a par with the best in the country. We will continue to build on the successes to date.
The Consequences of Cancer and its Treatment (CCaT) collaborative group (a Macmillan Community of Interest) produced a guidance document that includes ‘10 Top Tips’ for patients. These cover the key components of good survivorship care, and the LCA expects services to address these areas. The following nine points for professionals are based on the CCaT’s work.

10.1 Discuss a person’s needs
The holistic needs assessment (HNA) has been shown to be effective in identifying a person’s areas of concern (see Appendix 8). It can take many forms and the LCA has developed its own tool, based on the concerns checklist and distress thermometer. The tool allows patients to specify what is of most concern to them, and so directs subsequent discussion and intervention to addressing these needs. It has scope to cover physical, emotional, spiritual, finance and welfare, and practical concerns. It is anticipated that as the HNA becomes embedded within the pathway, patients will start to ask for an HNA and professionals need to be able to respond to this.

**Recommendation:** Every patient should be offered an HNA at key pathway points, including at diagnosis and end of treatment, and whenever a person requests one.

10.2 Provide a treatment summary and care plan
A **treatment summary** provides a summary of the cancer treatments received by the end of first treatment, planned follow-ups (including mechanisms for these) and signs and symptoms of which to be aware. The aim is to provide information not only to the patient but also to the GP about possible consequences of cancer and its treatment, signs of recurrence and other important information.

A **care plan** is generated as a result of an HNA and is the agreed plan between the patient and healthcare professional about how the identified areas of concern will be addressed. This may cover provision of information (e.g. through an information prescription), onward referral for specialist assessment and intervention, or things which the patient themselves can do (e.g. contact their HR department about graduated return to work options).

**Recommendation:** An end of treatment consultation should be offered to every patient. This should include an end of treatment HNA and associated written care plan, and should also include the discussion and provision of a comprehensive treatment summary.

10.3 Provide a main contact
Several pieces of UK-wide work have shown the necessity of a key contact, or key worker, not least the national Cancer Patient Experience Survey. It is now agreed that both patients and GPs (and other healthcare professionals) benefit from having a named person to contact if they need help or advice about issues related to the consequences of cancer and its treatment.

**Recommendation:** The treatment summary should include the details of a key worker in addition to details of who to contact out of hours. This should be sent to the GP, the patient and any others the patient identifies as necessary.
10.4 Identify post-treatment symptoms

As discussed above, cancer and its treatments can have far-reaching consequences and people with associated unmet needs are more likely to access healthcare services than their healthy counterparts. Providing information on likely post-treatment symptoms (e.g. early lymphoedema) and how these can be managed or avoided, allows people to seek the right help from the right people at the right time.

**Recommendation:** Information on anticipated or possible consequences of cancer treatment and what to do if they occur should be routinely provided to all patients. This should be done from the time of discussion of treatment onwards, with the information clearly reiterated during the end of treatment consultation.

10.5 Provide support about day-to-day concerns

Life changes following a cancer diagnosis. It is recognised that people need help and support to find a ‘new normal’. This may cover any one of a multitude of aspects, from work and education, through to financial worries and needing help with caring responsibilities. Help should be offered at all key points in the pathway, but may be of particular relevance at the end of treatment point and may well be highlighted in the HNA. There are various options for written information provision (e.g. Macmillan Cancer Support information leaflets and information prescriptions) as well as some specialist services (e.g. Citizens Advice). Reports published by the NCSI, available on the NCSI website, may be of use to professionals.

**Recommendation:** Patients should be routinely asked about whether they need support with day-to-day issues and referrals made to specialist services when necessary.

10.6 Talk about how you feel

Having a cancer diagnosis has an emotional impact, and at the end of treatment people experience a wide range of emotions. Sometimes, these can be dealt with by the person alone or with support from the key worker and others, but some people will need referral to psychological support services (see Chapter 11). This may be true for not only patients but their family and carers too.

**Recommendation:** Use an HNA to identify emotional concerns. Further screening tools (e.g. the Hospital Anxiety and Depression Scale) should be considered, with subsequent referrals made as necessary.

10.7 Healthy lifestyle

There is a growing body of evidence which supports the adoption of a healthy lifestyle for those who have had a cancer diagnosis.

10.7.1 Smoking cessation

Tobacco smoking is the main cause of preventable morbidity and premature death in England. End of treatment provides an opportunity to deliver stop smoking interventions at a point at which an individual may be more susceptible to health advice and hence more motivated to quit.

**Recommendation:** All current smokers should be asked about their smoking habit, and offered smoking cessation advice with onward referral to local services as necessary.
10.7.2 Diet

The role that diet can play in cancer incidence has been widely documented. Research has now moved to look at its influence beyond treatment. The nutritional issues during or following treatment include weight loss or gain; changes in body composition (e.g. loss of muscle mass); and particular eating difficulties (e.g. swallowing problems and limited capacity for food). There are also long-term symptoms (e.g. changes in bowel habits for those who have had pelvic radiotherapy).

Receiving advice from an appropriately trained professional has been shown to improve quality of life, reduce risk of recurrence and risk of developing a new primary or other chronic disease, such as heart disease or diabetes. The aim of dietary advice is also to counter the adverse effects of cancer treatment. To date, most of the work has been done in breast, colorectal and prostate cancer. The WCRF\(^4\) recommends the following for all cancer survivors:

- Be as lean as possible within the normal body weight range.
- Be physically active as part of everyday life.
- Avoid sugary drinks and limit the consumption of energy-dense foods.
- Eat mostly foods of plant origin.
- Limit intake of red meat and avoid processed meat.
- Limit alcoholic drinks.
- Limit consumption of salt. Avoid mouldy cereals or pulses.
- Aim to meet nutritional needs by diet alone.

**Recommendation:** Patients are provided with dietary advice, based on the WCRF recommendations at the end of treatment, with referral to specialist dietitians as required.

10.7.3 Physical activity

There has been a dramatic rise in the amount of high-quality published research on the role of exercise in cancer in recent years. Physical activity results in improvement in quality of life, fitness and function and symptoms related to cancer and its treatments. It reduces cancer recurrence, incidence of second cancers and reduces both all-cause and cancer-specific mortality.

There is wide consensus that cancer survivors should exercise to the same level as the general population for health benefits. Research suggests that a combination of cardiovascular and muscular strength training has additional benefits over undertaking only one type of exercise.

**Recommendations:** Patients should be encouraged to maintain or increase their level of physical activity both during and after treatment in line with national guidance. They should be referred for specialist assessment by a physiotherapist as necessary.

Patients should also be offered access to a health promotion event, such as a health and well-being clinic, at the end of treatment.
10.7.4 Sun protection

Patients who have been diagnosed with skin cancer should take extra care in the sun, as they are at increased risk of developing further skin cancer in the future. Cancer Research UK recommends the following to protect the skin from the sun:

- Wear close weave cotton clothing.
- Wear long sleeves and trousers.
- Wear a hat with a wide brim that shades your face and neck.
- Use a high factor sunscreen.
- Spend time in the shade when the sun is strongest (between 11am and 3pm).
- Never use a sunbed.

10.8 Self-managed follow-up

There is a move towards increased self-management and follow-up closer to home. This has clear benefits to patients, including reduced anxiety in the lead-up to routine appointments and less interference in their day-to-day life caused by travelling to hospitals. In addition, research has shown that recurrence is more likely to be detected by the patient themselves between appointments, rather than at the outpatient appointment. By reducing unnecessary appointments, Trusts are able to see new patients more quickly and spend more time with more complex patients.

For self-management to be effective, patients need to be given the right information about the signs and symptoms of recurrence and clear pathways to follow if they have concerns. They should also be guaranteed a fast, explicit route to re-access services if necessary. A telephone helpline is suggested, which should be staffed by senior, experienced staff.

**Recommendation:** In addition to the use of treatment summaries (as described above), services should investigate the feasibility of rolling out self-managed/patient-led follow-up.

10.9 Encourage survivors to share their experience

Sharing the experience of living with and beyond cancer can be beneficial to patients themselves, their carers and others who have a cancer experience. Providing feedback on their experience, and volunteering and participation in research can all have a positive impact on the patient.

**Recommendation:** Patients should be offered information on local support groups and where they can access further information on sharing their experiences.

To summarise, these guidelines set out how to best address survivorship care, based on best available evidence, current national policy and guidance and in response to work such as the Cancer Patient Experience Survey.

---


1 National Cancer Survivorship Initiative (2013), *Living With and Beyond Cancer: Taking Action to Improve Outcomes*. 

Psychological Support

Psychological support is well recognised as a component of the holistic care of patients with cancer, contributing to safer care, better outcomes, improved patient experience and also greater cost-effectiveness. Psychological distress is common in patients with cancer and some meet diagnostic criteria for psychiatric disorder. In the field of skin cancer, most research on distress has been conducted with patients with melanoma.

Across published studies, approximately 30% of patients diagnosed with melanoma were found to report psychological distress at a level indicating a need for clinical intervention with symptoms of anxiety more prevalent than symptoms of depression. Risk factors for distress identified in this review included female sex, younger age, lower educational level, visibility of the site of the melanoma, lack of social support and negative appraisal of the melanoma.

Anxiety is common at melanoma follow-up appointments and a recent Australian study has found clinically significant levels of distress in around 30% of a large population cohort of patients with melanoma 5 to 9 years after diagnosis, and in 45% of those with a recurrence. This study also found that distress levels were higher in women than men and were not related to thickness of melanoma at diagnosis or time since diagnosis.

This research highlights the importance of addressing the longer-term psychological well-being of patients with melanoma. This is also particularly pertinent as psychological distress has been shown to be associated with a number of negative factors including delay in seeking medical advice, decreased treatment adherence, lower quality of life and poorer participation in post-treatment screening and prevention behaviour.

Some patients are not only facing a diagnosis of cancer, they may also experience disfigurement and publicly visible disease as well as the side effects of treatment. Thus, patient subjective appraisals of their diagnosis and treatment, as well as individual characteristics such as age and levels of support and resources, all play a part in adjustment and it cannot be assumed that lower-risk diagnoses will automatically be associated with lower levels of distress.

In line with national recommendations, it is important for patients with skin cancer to be screened for psychological distress and psychiatric disorder at key points in their care pathway (around diagnosis, during treatment, as treatment ends and at recurrence).

At present, the multidisciplinary team at St John’s Institute of Dermatology at Guy’s and St Thomas’ includes one full-time clinical psychologist who is available to support patients with skin cancer directly and refer to/liaise with other services if needed. The post-holder maintains strong links with the Psycho-Oncology Support Team based at Dimbleby Cancer Care, through which Liaison Psychiatry support is also available. Emergency input to patients is available through Liaison Psychiatry and through A&E departments.

---


### Appendix 1: Urgent Suspected Skin Cancer Referral Forms

**South West London Referral Form**

<table>
<thead>
<tr>
<th>Urgent Referrals Criteria (Please tick category)</th>
<th>Date of GP decision to refer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 1 Any lesion suggestive of skin cancer</td>
<td>No. of pages faxed:</td>
</tr>
<tr>
<td>SK 2 Any lesion confirmed on biopsy to be cancer</td>
<td></td>
</tr>
<tr>
<td>SK 3 Any lesion suspected to be melanoma</td>
<td></td>
</tr>
<tr>
<td>SK 4 Non-healing lesion larger than 1 cm, with induction and present for over 3 weeks</td>
<td></td>
</tr>
</tbody>
</table>

**Patient Details**

- **Hospital:**
  - St. George’s
  - Kingston
  - Croxley
  - St. Helen/Sutton
  - The Royal Marsden
  - Queen Mary’s

- **GP Practice Code:**
- **Address:**
- **Post Code:**

**Contact Details**

- **Telephone No:**
- **Fax No:**

**Patient Details**

- **First Name:**
- **Last Name:**
- **Address:**
- **Post Code:**

**Daytime Tel or Mobile:**

- **Gender:**
- **Age:**

**Interpreter required:**

- **Language:**
- **Ethnicity:**

**Hospital No:**

**Comments/Other Reasons for Urgent Referral**

---

**South West London Referral Form**

**How to make urgent referrals for suspected skin cancers (melanoma and squamous cell carcinoma) (NICE 2006)**

**Guidelines for urgent referral:**

1. **Melanoma**
   - Pigmented lesion on any part of the body which have one or more of the following features:
     - Growing in size
     - Irregular outline
     - Changing shape
     - Changing colour
     - Mixed colour
     - Information
     - Note: Melanomas are usually firm or larger at the time of diagnosis, but a small number of patients with very early melanomas may have lesions of a smaller diameter.

2. **Squamous Cell Carcinoma**
   - Lesions with significant induration on palpation with documented expansion over a period of 1-2 months
   - Positive biopsy
   - Patients with a history of organ transplant have a high incidence of skin cancers, especially squamous cell carcinomas which can be unusually aggressive and metastasise.

**Notes:**

- Suspicious lesions should not be referred using this form.
- GP practices should not be referred using this form.

---

**South West London Cancer Network**

**How to make urgent referrals for suspected skin cancers (melanoma and squamous cell carcinoma)**

**Guidelines for urgent referral:**

1. **Melanoma**
   - Pigmented lesion on any part of the body which have one or more of the following features:
     - Growing in size
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     - Information
     - Note: Melanomas are usually firm or larger at the time of diagnosis, but a small number of patients with very early melanomas may have lesions of a smaller diameter.

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   - Lesions with significant induration on palpation with documented expansion over a period of 1-2 months
   - Positive biopsy
   - Patients with a history of organ transplant have a high incidence of skin cancers, especially squamous cell carcinomas which can be unusually aggressive and metastasise.

**Notes:**

- Suspicious lesions should not be referred using this form.
- GP practices should not be referred using this form.

---

**South West London Cancer Network**

**How to make urgent referrals for suspected skin cancers (melanoma and squamous cell carcinoma) (NICE 2006)**

**Guidelines for urgent referral:**

1. **Melanoma**
   - Pigmented lesion on any part of the body which have one or more of the following features:
     - Growing in size
     - Irregular outline
     - Changing shape
     - Changing colour
     - Mixed colour
     - Information
     - Note: Melanomas are usually firm or larger at the time of diagnosis, but a small number of patients with very early melanomas may have lesions of a smaller diameter.

2. **Squamous Cell Carcinoma**
   - Lesions with significant induration on palpation with documented expansion over a period of 1-2 months
   - Positive biopsy
   - Patients with a history of organ transplant have a high incidence of skin cancers, especially squamous cell carcinomas which can be unusually aggressive and metastasise.

**Notes:**

- Suspicious lesions should not be referred using this form.
- GP practices should not be referred using this form.
SOUTH EAST LONDON CANCER NETWORK

Skin Urgent Suspected Cancer Referral

Please tick the box of the hospital clinic you are referring to and fax this form to the relevant Urgent Referral Team within 24 hours. Guidelines are on the reverse side.

Princess Royal
Fax: 01689 866587
Tel: 01689 866587

Queen Elizabeth
Fax: 020 8366 4035
Tel: 020 8366 4035

Guy’s & St Thomas’
Fax: 020 7188 0923
Tel: 020 7188 0923

King’s College
Fax: 020 3299 1515
Tel: 020 3299 1515

Leigham
Fax: 020 3333 3451
Tel: 020 3333 3450

SECTION 1 - PATIENT INFORMATION. PLEASE COMPLETE IN BLOCK CAPITALS.

SURNAME
Patient visited this hospital before? Y / N

FIRST NAME
NHS Number

Gender M / F D.O.B.
Patient aware the referral is urgent? Y / N

Address
Interpreter required? Y / N

Post Code
Transport required? Y / N

Daytime Telephone Home Telephone (if different) / Mobile No.

SECTION 2 - PRACTICE INFORMATION. USE PRACTICE STAMP IF AVAILABLE.

Referring GP
Date of referral

Practice Address Telephone

Post Code Fax

SECTION 3 - CLINICAL INFORMATION. PLEASE TICK THE RELEVANT BOXES.

Major features (> 2 pts) Minor features (< 1 pt)

Change in size Sensation change / itch
Irregular shape Oozing
Irregular colour Inflammation

Largest diameter (mm)

Overall Score =

Location

Face
Scalp

Back

Other (please specify)

Risk Factors

Family history Fair skin / poor

Multiple naevi Excessive UV exposure

Additional information - Attach patient computer record summary if available. Complete on separate sheet if required.

SO Urgent Suspected Skin referrals

Refer urgently patients:

With a lesion suspected to be melanoma (excision in primary care should be avoided). Where squamous cell carcinoma is suspected – they are non-healing keratinizing or crusted tumours larger than 1cm with significant induration on palpation. They are commonly found on the face, scalp or back of the hand, with a documented expansion over 6 weeks. Who have had an organ transplant and develop new or growing cutaneous lesions as squamous cell carcinoma is common with immunosuppression but may be atypical and aggressive. With histological diagnosis of squamous cell carcinoma.

Use this proforma to refer urgently (2 Week Wait)

Refer non-urgently patients:

Where basal cell carcinoma is suspected – they are slow growing, usually without significant expansion over 2 months, and usually occur on the face.

Use Choose & Book or a letter to refer non-urgently

Investigations in Primary Care:

Melanoma assessment:

Change is a key element in diagnosing malignant melanoma. For low-suspicion lesions, undertake careful monitoring for change using the 7-point checklist (see below) for 8 weeks. Make measurements with photographs and a marker scale and/or rule. Be aware of and use the 7-point weighted checklist for assessment of pigmented skin lesions

• Major features: change in size; irregular shape; irregular colour

• Minor features: largest diameter 7mm or more; inflammation; oozing; change in sensation

Lesions scoring 3 points or more based on major features scoring 2 points each and minor features scoring 1 point each) in the 7-point checklist above are suspicious. (If you strongly suspect cancer any one feature is adequate to prompt urgent referral.)

Investigations:

All pigmented lesions that are not viewed as suspicious of melanoma but are excised should have a lateral excision margin of 2mm of clinically normal skin and cut to include subcutaneous fat in depth. Send all excised skin specimens for pathological examination.

When referring a patient in whom an excised lesion has been diagnosed as malignant, send a copy of the pathology report with the referral correspondence.

Primary Care physicians undertaking minor surgery should have received appropriate accredited training in relevant aspects of skin surgery, and should undertake appropriate continuing professional development.

Approved by the South East London Cancer Network in November 2008.

For comments, additional copies, or patient information resources for GPs to use contact the Network on Tel: 020 7188 0923 / Fax: 020 7188 7102, or visit our website: www.selcn.nhs.uk.
Please ensure this form is received in the Trust within 24 hours of GP decision to refer
Latest version of the form is available at www.nwlnh.nhs.uk
Version 4.0

NORTH WEST LONDON CANCER NETWORK
URGENT SUSPECTED SKIN CANCER REFERRAL FORM
To make a referral, FAX this form to the Urgent Referral Team at the relevant hospital (see
overleaf). If you wish to send an accompanying letter, please do so. All referrals must be FAXED.
Hospital to which patient is being referred:

<table>
<thead>
<tr>
<th>Patient details</th>
<th>GP Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS No.</td>
<td>Dr:</td>
</tr>
<tr>
<td>Surname</td>
<td>Address:</td>
</tr>
<tr>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>Age / D.O.B.</td>
<td>Tel:</td>
</tr>
<tr>
<td>Address</td>
<td>Email:</td>
</tr>
<tr>
<td>Postcode</td>
<td>Date of decision to refer:</td>
</tr>
<tr>
<td>Tel day</td>
<td>Mobile:</td>
</tr>
</tbody>
</table>

SQUAMOUS CELL CARCINOMA

Have you informed the patient that you suspect skin cancer? Y / N
Have you told the patient they will be seen within 2 weeks? Y / N
Has the patient had a previous diagnosis of cancer/immunosuppression? Y / N (Specify if known)
Any lesion confirmed on biopsy to be cancer Y / N
Non healing lesions larger than 1 cm, with induration and present for over 8 weeks Y / N

Clinical history: Include past medical history, drug allergies, any investigations arranged or results obtained.

Aide Memoire for Melanoma

1. Asymmetry
2. Border irregularity
3. Change in Colour
4. Diameter greater than 6mm
5. Evolution/Elevation


North West London Hospitals NHS Trust
Fax: 020 8235 4188
Tel: 020 8235 4293

Imperial College Healthcare
NHS Trust
Fax: 020 3312 1580
Tel: 020 3312 1527

Chelsea and Westminster
NHS Foundation Trust
Fax: 020 3315 8814
Tel: 020 3315 2688

Ealing Hospital NHS Trust
Fax: 020 8967 5005
Tel: 020 8967 5000, x3921

Hillingdon Hospital NHS
Trust
Fax: 01895 279890
Tel: 01895 279230

2WW dedicated fax line: 01895 27987

The Royal Marsden NHS
Foundation Trust
Fax: 020 8661 3149
Tel: 0800 731 2325
Email: rmlhr referrals@nhs.net

The Royal Marsden NHS
Foundation Trust
Fax: 020 8321 5157
Tel: 020 8321 6776

Please ensure this form is received in the Trust within 24 hours of GP decision to refer
Latest version of the form is available at www.nwlnh.nhs.uk
Version 4.0
Appendix 2: Total Skin Electron Beam Therapy Treatments

Cutaneous tumour Stage T3N0–1M0 (IIIB)
Complete responses with TSEBT are lower with Stage T3 tumours, in the region of 36–54%. This is, however, much superior to skin-directed superficial radiotherapy and topical nitrogen mustard which has complete response rates of 8%. Therefore, patients with Stage IIIB disease are offered TSEBT as first-line treatment for its superior response rate and rapid palliative effect. It is combined with adjuvant treatment such as PUVA which improves the 5-year relapse-free survival from 30% with TSEBT alone to 55% with TSEBT and adjuvant PUVA.

Erythroderma Stage T4N0–1M0 (III)
TSEBT can produce rapid and sustained responses in erythrodermic mycosis fungoides ameliorating the severe cutaneous symptoms experienced by such patients. The reported complete response to TSEBT for Stage III mycosis fungoides ranges from 60% to 100% with 5-year progression-free survival of 69%. The complete response rate and progression-free survival is less in patients with blood or visceral involvement. These patients may benefit from adjuvant photopheresis. TSEBT is an appropriate first-line therapy for these patients. We currently use it as second-line therapy following treatment with PUVA, interferon alpha, photopheresis or methotrexate.
Appendix 3: Advanced Cutaneous Malignant Melanoma Guidelines

These guidelines should be read in conjunction with the guidance in Appendix 4 on follow-up for patients with melanoma.

Locoregional recurrent melanoma: skin and soft tissues

Where possible in the case of oligo-, local or regional metastases, surgery is the treatment of choice. Excision should aim to be clinically and histologically complete although wide margins are not required. Carbon dioxide laser ablation may be used for multiple small superficial and dermal lesions (Level III).1 Patients with progressive dermal disease, subcutaneous or deeper limb metastases should be considered for regional chemotherapy with isolated limb infusion (ILI) or isolated limb perfusion (ILP).2,3 ILI is most suitable for patients with lower volume disease (<5cm) and those with co-morbidities which prevent ILP. Patients with bulky disease may benefit more from ILP.4 Radiotherapy is not recommended in the first instance (Level III) but can be considered in disease which cannot be otherwise controlled. New treatments such as electrochemotherapy are still being evaluated but anecdotal evidence suggests that this technique can also be effective in palliation of locoregional recurrence. Data on its use and efficacy should be collected in a prospective fashion. For patients where surgical approaches are not possible, systemic therapy options should be considered.

Adjuvant systemic therapy for patients with primary melanoma

Patients should be offered entry into adjuvant trials wherever possible. There is no evidence of a survival benefit for adjuvant chemotherapy in patients with melanoma.5 This includes adjuvant regional chemotherapy using ILP or ILI.6 These therapies therefore should not be given in the adjuvant setting.

Interferon-alpha has been evaluated in several large trials using varying doses and schedules. An individual patient data meta-analysis concluded that interferon was associated with a statistically significant impact on relapse-free survival and a small effect on overall survival (5-year survival benefit 3% P<0.05).7 Benefit was greatest for those patients with ulcerated primary melanoma and least in those patients with macroscopic nodal involvement. There was no indication as to optimum dose or duration of therapy. This has also been borne out in systematic review.8 At present, interferon is not recommended in the London Cancer Alliance (LCA) as the standard of care for adjuvant therapy of Stage I–III melanoma due to this small absolute survival benefit and relatively high toxicity.

Adjuvant radiotherapy

The Tasmanian Radiation Oncology Group (TROG) conducted a randomised study of adjuvant radiotherapy to dissected nodal basins, 48Gy in 20 fractions, in 250 patients with high (>25%) risk of local recurrence following lymphadnectomy.9 Eligible patients were ≥1 parotid, ≥2 cervical or axillary or ≥3 groin nodes, or extranodal spread of tumour, or node diameter ≥3cm in the neck or axilla and ≥4cm in the groin. Interim results showed a 15% improvement in local control following radiotherapy but no effect on overall survival. Patients who received radiotherapy experienced greater morbidity including lymphoedema. This was particularly seen as a later side effect following radiotherapy delivered to groin and axillary nodal basins.
Radiotherapy can therefore be considered in the above groups but its use must be carefully weighed up against the increased morbidity, including lymphoedema, that may ensue.

In addition, if there is clinical or histological doubt about the adequacy of surgery or the feasibility of further surgery to obtain clear margins, then adjuvant radiotherapy may be considered.

Stage IV or unresectable Stage IIIC metastatic disease

**General principles**

All patients with metastatic melanoma should be considered for and then counselled about entry into clinical trials of novel therapies.

All patients should have access to a 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 should be managed by an oncologist specialising in melanoma.

**Genetic testing of tumour** *(Appendix 4)*

The tumour BRAF mutational status should be determined on all patients with metastatic melanoma. NRAS and c-KIT analysis is currently performed only in the context of clinical trials.

**Surgery for Stage IV disease**

Selected patients who relapse with single or oligo-site distant metastatic disease may benefit from metastasectomy. Although this has not been evaluated in a randomised trial, median survival of 21 months for selected surgically treated patients has been reported\(^{10,11,12,13,14,15}\) (Level IIb, Grade B). There is likely to be considerable selection bias in such reports. For liver, lung or bone metastases, patients should have a ‘trial of time’ of 2 months or more before surgery to ensure that more widespread disease is not emerging. Patients with operable soft tissue (including breast), brain, nodal or gastrointestinal tract disease may not require a trial of time, as obtaining local control of disease at such sites may well be important in palliation.

**Systemic therapy**

**BRAF positive disease**

*First line*

Vemurafenib is licensed and National Institute for Health and Care Excellence (NICE) approved for the treatment of V600 BRAF mutation positive Stage IV or unresectable Stage IIIC melanoma and should be considered for such patients.\(^{16}\) Dabrafenib is more recently licensed and also indicated as a monotherapy for the treatment of adult patients with unresectable or metastatic melanoma with a BRAF V600 mutation. It has some non-overlapping toxicities with vemurafenib and is currently available through the Cancer Drugs Fund for patients with ‘severe intolerance necessitating discontinuation of vemurafenib within 2 months of initiating vemurafenib’. Vemurafenib and dabrafenib are both associated with high response rates, rapid palliation of symptoms and a median progression-free survival of the order of 6 months.

In occasional patients with small volume disease, the option of using chemotherapy first line, ipilimumab second line and then vemurafenib third line can be considered.

A first-line licence for ipilimumab has been granted by the European Medicines Agency (EMA) and will be considered by NICE and so, where funding is available, can also be considered.
Ipiilimumab is indicated for the treatment of advanced (unresectable or metastatic) melanoma in adults who have received prior therapy in accordance with current NICE guidance.\textsuperscript{17}

Chemotherapy can occasionally be considered in patients of good performance status who are not eligible for clinical trials

**BRAF wild-type disease**

Standard chemotherapy outside a clinical trial remains single-agent dacarbazine (DTIC) although response rates are poor (10–20\%). Temozolomide has greater central nervous system penetration but has not shown to be superior to DTIC in two multicentre trials. It is not routinely available in the LCA.\textsuperscript{18,19} Single-agent carboplatin and interferon also have limited activity in Stage IV melanoma and are occasionally used. Combination chemotherapy, for example cisplatin, vinblastine (or vindesine) and DTIC (CVD), or cisplatin/DTIC, or carboplatin/paclitaxel, have been evaluated in clinical trials and found to have higher response rates than single-agent DTIC but no resulting improvement in overall survival. Consequently, combination chemotherapy is only recommended in selected fitter patients, for example with symptomatic metastases, to try to achieve palliation.

High dose interleukin-2 is not recommended in the LCA.

Ipiilimumab, a monoclonal antibody directed against CTLA4, was licensed in 2011 for the treatment of patients with Stage IV melanoma that has progressed on prior systemic therapy.\textsuperscript{20} It is NICE approved in this setting. A first-line licence has currently been granted by the EMA and will be looked at by NICE.

Platinum-based chemotherapy is occasionally considered as a palliative treatment.

**Central nervous system metastases**

Patients with central nervous system metastases have a poor prognosis. Surgery or stereotactic radiotherapy should be considered in those with limited disease.\textsuperscript{21,22,23} Whole brain radiotherapy may have palliative value. Supportive care is essential.

Patients receiving BRAF inhibitors should be advised to stop such therapy during whole brain radiotherapy due to concerns of toxicity.

Spinal cord compression should be treated surgically if feasible, but this may not be appropriate if there are multiple sites affected and there is a poor performance status and prognosis. Radiotherapy may be useful for palliation of rapidly enlarging or painful metastases involving soft tissues and bones (Level IIb, Grade B).

---


Appendix 4: Follow-up of High-risk Cutaneous Melanoma in the UK

This 2013 position paper is reproduced by kind permission of Dr Paul Lorigan. The paper is also available on the Melanoma Focus website: [http://melanomafocus.com/members/follow-up-position-paper/](http://melanomafocus.com/members/follow-up-position-paper/)

2013 Position Paper: Follow-Up of High Risk Cutaneous Melanoma in the UK

Authors Larkin, Acland, Algurafi, Allan, Barlow, Board, Brown, Burrows, Chao, Clarke, Cook, Corrie, Dalgleish, Danson, Evans, Faust, Goodman, Gore, Harries, Harwood, Herbert, Highley, Hill, Kumar, MacKie, Marples, Marsden, Marshall, Middleton, Moncrieff, Mowatt, Mulatero, Nathan, S Nicholson, M Nicolson, Nobes, Ottensmeier, Patel, Plummer, Powell, Steven, Szlosarek, Talbot, Wagstaff, Waterston, Westwell, Yousaf, Lorigan

Acknowledgement Dr Lorna Sweetman for advice on radiation risk

Contents

Introduction
Surveillance of patients with resected cutaneous melanoma
Recommendations
Appendices
A References
B Doses for follow-up imaging for cutaneous melanoma
C Authors’ full names and institutions

Introduction

There have been dramatic changes in the outcomes for patients with advanced melanoma in the past four years, with further improvements expected over the next few years. This position paper reports the consensus view of the majority of UK clinicians treating melanoma patients on how to follow up and investigate patients at a high risk of recurrence. It represents a significant departure from the BAD/MSG Guidelines published in 2010 and is intended as a framework to inform clinical teams treating patients with melanoma.

This is a dynamic field of medicine and we expect there to be debate over these recommendations. Comments are welcome and we will consider them when making future revisions.

(Contacts: paul.lorigan@christie.nhs.uk or james.larkin@rmh.nhs.uk)

Surveillance of patients with resected cutaneous melanoma

Existing UK recommendations for melanoma surveillance were developed at a time when systemic therapy for advanced disease was largely ineffective. Over the past three years there have been significant advances in melanoma treatment. Two new agents, ipilimumab and vemurafenib, have been licensed and are available in the UK, both having shown significant survival benefits in pivotal Phase 3 trials (1, 2). Due to its mechanism of action, ipilimumab may work better in patients with low volume, asymptomatic disease.
Dabrafenib and trametinib have been licensed by the FDA and EMA (3, 4). A number of other new drugs and combinations are showing significant activity, with an expectation that these will further improve survival for patients with advanced melanoma (5, 6, 7).

Historically, UK follow-up guidelines for patients at a high risk of recurrence have been conservative because there was no randomised evidence to support an intensive follow-up; neither were there any treatments that significantly improved survival for patients with advanced disease. The first assertion remains largely correct, though the poorer survival seen for UK patients compared with other European countries may reflect more advanced disease at presentation (8). We have considered in detail whether a trial comparing more intensive with less intensive follow up is warranted now. The conclusion of the majority was that the treatment landscape for patients is currently so unstable – with treatment algorithms changing very rapidly and new treatments having potential to dramatically improve survival – that it would impossible to identify a primary endpoint that would accurately reflect the reason for the study. It is anticipated that this will change in the next three to five years, and a study at that stage could become feasible.

A new surveillance policy (including imaging) is therefore necessary, aimed at identifying and treating patients with low volume recurrent disease earlier, including those with brain disease. This is particularly important to maximise the benefits of immunotherapy, where steroid use to control symptoms due to bulky disease negatively impacts on outcome (9). Evidence from the BRIM 2 study also suggests that those patients most likely to get prolonged benefit from vemurafenib have earlier stage and less bulky disease (10). Waiting for patients to develop symptoms and bulky disease, with a consequent reduction of performance status and risk of a steroid requirement, is illogical as it is likely to render some of the newer therapies less effective.

Recent attention to the cancer risks of ionizing radiation has prompted debate about how to quantify the risks of diagnostic imaging, and how these risks need to be incorporated into the decision-making process when making recommendations for patient care. There is good evidence of a linear-no-threshold dose-response model, with an increase incidence of a range of rare and common cancers (11, 12, 13). Added to this is the risk of false-positive investigations, resulting in unnecessary further investigations with the associated implications for patients and the NHS. We have sought to quantify the radiation risk associated with regular imaging, so that this can be discussed with patients (Appendix B). Based on the imaging guidelines set out below (ie, nine scans in five years) the risk of a cancer in the lifetime of a 40-49 year old in normal health is an additional 0.6%, compared to the overall cancer risk from all causes of 40%. Risks are higher in younger patients and lower in older patients (14, 15, 16).

<table>
<thead>
<tr>
<th>Imaging Modality</th>
<th>Typical lifetime risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT Thorax, abdomen, pelvis</td>
<td>0.05%</td>
<td>per scan</td>
</tr>
<tr>
<td>CT Head</td>
<td>0.007%</td>
<td>per scan</td>
</tr>
<tr>
<td>PET-CT</td>
<td>0.06%</td>
<td>per scan</td>
</tr>
<tr>
<td>All follow-up imaging</td>
<td>0.6%</td>
<td>9 scans over 5 years</td>
</tr>
<tr>
<td>Overall cancer risk</td>
<td>40%</td>
<td>from all causes</td>
</tr>
</tbody>
</table>
There is no agreed definition of ‘high risk’ melanoma, but the AJCC staging system allows accurate prediction of five- and ten-year survival (17). Many clinicians would agree that patients with an expected five-year survival of ≤ 50% would be considered high risk and recent adjuvant therapy studies have included these patients. Patients with high risk disease have a very high risk of relapse for the first three years, with at least 60% of all recurrence occurring within this period. The risk of recurrence reduces significantly thereafter.

**Recommendations**

**1. DEFINITION OF HIGH RISK (new recommendation)**

The definition of ‘high risk’ melanoma should be agreed at a local level by the Specialist Skin Multidisciplinary Team (SSMDT).

Based on the entry criteria of a number of adjuvant studies, our recommendation is that the following should be considered high risk:

i. Any patient with satellite, in-transit or macroscopic nodal disease;

ii. Sentinel node positive patients deemed high risk (five year survival ≤50%) following SSMDT review of sentinel node pathology;

iii. Patients with T4b tumours.

**2. SURVEILLANCE**

**Clinical review (unchanged from BAD/MSG Guidelines 2010)**

Recommendations for clinical review:

<table>
<thead>
<tr>
<th>Years</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>3-monthly</td>
</tr>
<tr>
<td>4-5</td>
<td>6-monthly</td>
</tr>
<tr>
<td>6-10</td>
<td>annual</td>
</tr>
</tbody>
</table>

**Blood tests (unchanged from BAD/MSG Guidelines 2010)**

No blood tests are recommended for routine surveillance.

There are currently no randomised data to support blood tests, although this is common practice in many units.

**Imaging (new recommendation)**

CT scanning of the thorax, abdomen and pelvis is a standard imaging technique for melanoma. MRI offers better sensitivity and specificity with no radiation dose for imaging of the CNS compared with CT. PET CT affords higher sensitivity and specificity than conventional CT imaging and is particularly suited for lower limb evaluation with comparable radiation dose to CT Thorax, abdomen and pelvis (18). Melanoma of the neck region should have MR surveillance in view of thyroid radiation dose considerations.

The implications of a positive brain scan for patients are significant. Whilst some patients may be treated successfully with surgery or stereotactic radiosurgery, for most the prognosis is very poor. Balancing the potential benefits of earlier treatment of asymptomatic disease (smaller volume, no requirement for steroids) against the impact on patients not being allowed to drive can only be done on an individual patient basis.
We recommend that surveillance should include imaging of the brain, but individual patient preference must be taken into account.

**Imaging surveillance recommendations**

i. The patient must be aware and informed of the risk benefit of imaging protocols;

ii. The choice of modality will be determined by the local MDT.

iii. Imaging:

   - CT chest, abdomen and pelvis or PET CT total body

   **plus**

   - MRI head

iv. Imaging Frequency:

   - Baseline
   - Repeat 6 monthly to 3 years
   - Then repeat annually to 5 years

### 3. MOLECULAR TESTING (new recommendation)

For patients with metastatic disease, molecular testing of the tumour to determine suitability for targeted therapy is now the standard of care. There is evidence that the type of mutation varies with age: e.g., BRAF V600E mutations are more common in younger patients and BRAF V600K mutations are more common in older patients, while the sensitivity and specificity of different molecular tests for determining these mutations varies (12). There are some reports of change in mutation status during disease progression, indicating that the most recent tissue available should be tested.

**Molecular testing recommendations**

i. All patients having follow-up cross-sectional imaging should have tumour testing for BRAF mutations;

ii. The most recent tissue available should be tested;

iii. A clear Standard Operating Procedure (SOP) for managing samples must be in place, with particular reference to sample quality.
Appendix A: References


15. HPA-CRCE-028 Radiation Risks from Medical X-ray Examinations as a Function of the Age and Sex of the Patient http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317131197532


Appendix B: Doses for follow-up imaging for cutaneous melanoma

This appendix provides estimates of dose and risk for CT scans of: the thorax, abdomen and pelvis; CT scans of the brain; and PET-CT scans for tumour imaging.

Doses are stated in the form of effective dose in mSv and have been taken from Public Health England (Report HPA-CRCE-012) and the ARSAC Notes for Guidance. Risk calculations are based on age-, sex- and exam-specific risk coefficients published by PHE (Report HPA-CRCE-028) and are for individuals of normal health in each of those categories.

Effective doses are not intended for individual dose and risk assessment, but rather for the purposes of comparing radiation exposures to populations. However, they may be used as a guide in decision-making and communication with patients. Irrespective of the magnitude of the dose, all medical exposures should be justified as providing a net benefit to the patient.

Typical doses

The average doses for the scans range from 1.4 mSv to 11 mSv for a PET-CT with a low dose CT scan. This is equivalent to approximately 8 months to 5 years exposure to natural background radiation in the UK.

<table>
<thead>
<tr>
<th>Average dose (mSv)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CT Thorax, abdomen, pelvis</td>
<td>10.0</td>
</tr>
<tr>
<td>CT Head</td>
<td>1.4</td>
</tr>
<tr>
<td>PET-CT</td>
<td>11.0</td>
</tr>
<tr>
<td>Annual UK background radiation</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Typical risks

Most scans fall into the ‘low risk’ category (risks between 1 in 1,000 and 1 in 10,000), with the CT head scans of older patients being ‘very low risk’. For patients that are followed-up with CT head and either CT thorax, abdomen and pelvis or PET-CT scans, the cumulative risk over 5 years would be 0.6% (approximately 1 in 200).

<table>
<thead>
<tr>
<th>Typical risk</th>
<th>Timescale</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT Thorax, abdomen, pelvis</td>
<td>0.05%</td>
</tr>
<tr>
<td>CT Head</td>
<td>0.007%</td>
</tr>
<tr>
<td>PET-CT</td>
<td>0.06%</td>
</tr>
<tr>
<td>All follow-up imaging</td>
<td>0.6%</td>
</tr>
<tr>
<td>Overall cancer risk from all causes</td>
<td>40%</td>
</tr>
</tbody>
</table>
CT Thorax, Abdomen and Pelvis average dose: 10 mSv

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Sex</th>
<th>Additional cancer risk</th>
<th>1 in X risk</th>
<th>Risk category</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>Male</td>
<td>0.06%</td>
<td>1600</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.09%</td>
<td>1100</td>
<td>Low</td>
</tr>
<tr>
<td>40-49</td>
<td>Male</td>
<td>0.04%</td>
<td>2300</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.06%</td>
<td>1600</td>
<td>Low</td>
</tr>
<tr>
<td>60-69</td>
<td>Male</td>
<td>0.02%</td>
<td>4200</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.04%</td>
<td>2800</td>
<td>Low</td>
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</table>

CT Head average dose: 1.4 mSv.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Sex</th>
<th>Additional cancer risk</th>
<th>1 in X risk</th>
<th>Risk category</th>
</tr>
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<tbody>
<tr>
<td>20-29</td>
<td>Male</td>
<td>0.013%</td>
<td>7500</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.011%</td>
<td>9500</td>
<td>Low</td>
</tr>
<tr>
<td>40-49</td>
<td>Male</td>
<td>0.008%</td>
<td>12500</td>
<td>Very low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.007%</td>
<td>14000</td>
<td>Very low</td>
</tr>
<tr>
<td>60-69</td>
<td>Male</td>
<td>0.004%</td>
<td>27500</td>
<td>Very low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.003%</td>
<td>37500</td>
<td>Very low</td>
</tr>
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</table>
PET-CT average dose: 11 mSv

The average dose from the radiopharmaceutical (FDG) used in a PET scan is 8 mSv. A PET examination includes a CT scan. It is usually possible to use a lower dose scan for PET-CT than for CT on its own. The table and figures below give the combined risks for the radiopharmaceutical administration and CT scan with a dose of 3 mSv.

<table>
<thead>
<tr>
<th>Age (years)</th>
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<th>Additional cancer risk</th>
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<tr>
<td>20-29</td>
<td>Male</td>
<td>0.07%</td>
<td>1500</td>
<td>Low</td>
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<tr>
<td></td>
<td>Female</td>
<td>0.10%</td>
<td>1000</td>
<td>Low</td>
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<tr>
<td>40-49</td>
<td>Male</td>
<td>0.05%</td>
<td>2200</td>
<td>Low</td>
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<tr>
<td></td>
<td>Female</td>
<td>0.07%</td>
<td>1500</td>
<td>Low</td>
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<tr>
<td>60-69</td>
<td>Male</td>
<td>0.02%</td>
<td>4000</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.04%</td>
<td>2800</td>
<td>Low</td>
</tr>
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</table>

Links to documents

### Appendix C: Authors’ full names and institutions

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
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<tbody>
<tr>
<td>Acland, Dr Katherine</td>
<td>Guy's and St Thomas' NHS Foundation Trust</td>
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<tr>
<td>Algurafi, Dr Hafiz</td>
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</tr>
<tr>
<td>Allan, Dr Rosemary</td>
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</tr>
<tr>
<td>Barlow, Dr Clare</td>
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</tr>
<tr>
<td>Board, Dr Ruth</td>
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<tr>
<td>Brown, Dr Ewan</td>
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</tr>
<tr>
<td>Burrows, Dr Lorna</td>
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<td>Cook, Prof Martin</td>
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<tr>
<td>Corrie, Dr Pippa</td>
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<td>Dalgleish, Prof Angus</td>
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<tr>
<td>Danson, Dr Sarah</td>
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<tr>
<td>Evans, Prof Jeff</td>
<td>The Beatson Institute for Cancer Research, Glasgow</td>
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<tr>
<td>Faust, Dr Guy</td>
<td>Northampton General Hospital NHS Trust</td>
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<tr>
<td>Goodman, Dr Andrew</td>
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<td>Harries, Dr Mark</td>
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<td>Harwood, Prof Catherine</td>
<td>Centre for Cutaneous Research Blizard Institute of Cell and Molecular Science Barts and the London School of Medicine and Dentistry, Queen Mary University of London</td>
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<tr>
<td>Herbert, Dr Chris</td>
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<tr>
<td>Highley, Dr Martin</td>
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<tr>
<td>Hill, Prof Jonathan</td>
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<tr>
<td>Kumar, Dr Satish</td>
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<td>Larkin, Dr James</td>
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<td>MacKie, Prof Rona</td>
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<td>Marples, Dr Maria</td>
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<tr>
<td>Moncrieff, Mr Marc</td>
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<td>Mulatero, Dr Clive</td>
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<td>Szlosarek, Dr Peter</td>
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<tr>
<td>Talbot, Dr Toby</td>
<td>Royal Cornwall Hospitals NHS Trust</td>
</tr>
<tr>
<td>Wagstaff, Prof John</td>
<td>Singleton Hospital, Swansea</td>
</tr>
<tr>
<td>Waterston, Dr Ashita</td>
<td>NHS Greater Glasgow and Clyde</td>
</tr>
<tr>
<td>Westwell, Dr Sarah</td>
<td>Brighton and Sussex University Hospitals NHS Trust</td>
</tr>
<tr>
<td>Yousaf, Dr Nadia</td>
<td>Imperial College Healthcare NHS Trust, London</td>
</tr>
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</table>
Appendix 5: Guidelines for the Management of Cutaneous T-cell Lymphoma

These guidelines are adapted from the British Association of Dermatologists, Joint British Association of Dermatologists and UK Cutaneous Lymphoma Group guidelines for the management of primary cutaneous T-cell lymphomas. *BJD* 2003; **149**:1095–1107,

**Background**

The incidence of cutaneous lymphomas is 0.4 per 100,000 per year, but because most are low-grade malignancies with long survival, the overall prevalence is much higher.

Approximately two-thirds of cutaneous lymphomas are of T-cell origin (cutaneous T-cell lymphoma – CTCL) of which the majority are mycosis fungoides. It is recommended that all patients, possibly with the exception of those with early stages of mycosis fungoides (IA) or with lymphomatoid papulosis, should be reviewed by a multidisciplinary team which should include a dermatologist, a clinical or medical (haemato)oncologist and a dermatopathologist or a pathologist with considerable experience of the diagnosis and management of primary CTCL.

In addition, a central review of all pathology would be desirable, consistent with current recommendations from the Royal College of Pathologists for specialist pathology services. Subsequent management should ideally be shared between the specialist skin cancer multidisciplinary team (SSMDT) and the local referring physician.

**The management of primary cutaneous T-cell lymphoma**

**Initial assessment**

- Repeated skin biopsies are often required to confirm a diagnosis of CTCL.
- Histology, IHC and TCR gene analysis should be performed.
- CT scans should be performed for staging in Stage II and above disease.
- At diagnosis, peripheral blood samples should be analysed for total white cell, lymphocyte and Sézary cell counts, LDH, LFT and U&E, lymphocyte subsets, CD4/CD8 ratios, HTLV-1 serology and TCR gene analysis.
- Bone marrow aspirate or trephine is required for CTCL variants and Stage IIB and above.

**Histopathology**

The European Organisation for Research and Treatment of Cancer (EORTC) cutaneous lymphoma classification defines several well characterised clinicopathological entities for primary CTCL and forms a useful basis for a rational approach to therapy.¹ Most of the CTCL entities defined by the EORTC have been recognised in the WHO classification for lymphomas.²

The presence or absence of epidermotropism should be documented. The depth of the infiltrate should be noted.

The morphology or cytology of the atypical cells and presence of large cell transformation, folliculotropism, syringotropism, granuloma formation, angiocentricity and subcutaneous infiltration should be mentioned.
Immunophenotypic studies should be performed on paraffin-embedded sections and include T-cell markers CD2, CD3, CD4, CD8, B-cell marker CD20 and the activation marker CD30. Markers of cytotoxic function such as TIA-1, the monocyte/macrophage marker CD68 and natural killer (NK) cell marker CD56 may be useful for specific CTCL variants. Ideally, all pathology results should be reviewed by histopathologists who partake in the National Dermatopathology External Quality Assessment (EQA).

The histology, after correlation with the clinical features, should be classified according to an integration of the WHO and EORTC classification.

**Table 1: WHO classification relating to primary cutaneous T-cell lymphomas**

<table>
<thead>
<tr>
<th>Indolent</th>
</tr>
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<tbody>
<tr>
<td>• Mycosis fungoides (MF) (pagetoid reticulosis/follicular mucinosis)</td>
</tr>
<tr>
<td>• Primary cutaneous large cell anaplastic CD30+ lymphoma (pleomorphic/immunoblastic*)</td>
</tr>
<tr>
<td>• Lymphomatoid papulosis</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sézary syndrome</td>
</tr>
<tr>
<td>• Peripheral T-cell lymphoma (large cell CTCL CD30- pleomorphic/immunoblastic*)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provisional</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Granulomatous slack skin</td>
</tr>
<tr>
<td>• Peripheral T-cell lymphoma (CTCL small/medium cell – pleomorphic*)</td>
</tr>
<tr>
<td>• Subcutaneous panniculitis-like T-cell lymphoma</td>
</tr>
</tbody>
</table>

(The EORTC classification of primary cutaneous lymphomas recognises the clinicopathological entities indicated*. Although these entities are not clearly defined in the WHO classification, some of these primary cutaneous large cell CD30- and small/medium cell pleomorphic lymphomas may represent primary cutaneous extranodal NK-like T-cell lymphomas (nasal type), blastic NK-cell lymphomas or uncharacterised peripheral T-cell lymphoma as described in the WHO classification).  

**Staging**

**Clinical staging system for cutaneous T-cell lymphoma**

<table>
<thead>
<tr>
<th>TNM classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1: Patches or plaques &lt;10% body surface area</td>
</tr>
<tr>
<td>T2: Patches or plaques &gt;10% body surface area</td>
</tr>
<tr>
<td>T3: Tumours</td>
</tr>
<tr>
<td>T4: Erythroderma</td>
</tr>
<tr>
<td>N0: No palpable nodes</td>
</tr>
<tr>
<td>N1: Palpable nodes without histological involvement (dermatopathic)</td>
</tr>
<tr>
<td>N2: Non-palpable nodes with histological involvement</td>
</tr>
</tbody>
</table>
N3: Palpable nodes with histological involvement
M0: No visceral disease
M1: Visceral disease

B0: No haematological involvement
B1: Sézary count >5% of total peripheral cell lymphocytes

**Bunn & Lambert system**

Stage IA: T1 N0
Stage IB: T2 N0
Stage IIA: T1/2 N1
Stage IIB: T3 N0/1
Stage III: T4 N0/1
Stage IVA: T-any N2/3
Stage IVB: T-any N-any M1

Both systems are complementary. Sézary syndrome patients can be Stage III, IVA, IVB. The Bunn & Lambert system does not adequately address the issue of peripheral blood involvement in CTCL.

**Therapy**

MF and Sézary:

- Stage I – this is treated within the London Cancer Alliance by dermatologists.
- Stage II and above – this is referred to St Thomas’ Hospital or The Royal Marsden Hospital, Fulham Road, depending on clinical need.

**Table 2: Clinical pathway for cutaneous lymphomas**

<table>
<thead>
<tr>
<th>Category</th>
<th>Specialist MDT</th>
<th>Supra-network MDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk (IA–IIA) MF</td>
<td>Required</td>
<td>Optional</td>
</tr>
<tr>
<td>Intermediate risk (IA–IIA) MF</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>Stage III erythrodermic MF/SS</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>High risk (IIB–IV) MF/SS</td>
<td>Required</td>
<td>Essential</td>
</tr>
<tr>
<td>pcCD30+ lymphoproliferative disorders</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>CTCL variants</td>
<td>Required</td>
<td>Essential</td>
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<tr>
<td>CBCL</td>
<td>Optional</td>
<td>Optional</td>
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**Guidelines for the management of Kaposi’s sarcoma**

The guidelines are taken from the British HIV Association guidelines for HIV-associated malignancies 2008. Both HIV Kaposi’s sarcoma (KS) and non-HIV KS are treated at St Mary’s Hospital, Chelsea and Westminster Hospital or Mount Vernon Hospital.
Background

HIV infection is associated with three AIDS-defining malignancies (Kaposi’s sarcoma, high-grade B-cell non-Hodgkin’s lymphoma and invasive cervical carcinoma) as well as with an increased risk of a number of other malignancies. The clinical care of patients with these tumours requires a multidisciplinary approach drawing on the skills and experience of all healthcare professional groups. Moreover, optimal care can only be achieved with the close cooperation of oncologists, haematologists and HIV physicians.

Guidelines for patient treatment: diagnosis, staging and prognosis

Kaposi’s sarcoma (KS) is the most common tumour in people with HIV infection and is an AIDS-defining illness. The cutaneous lesions are characteristic and often diagnosed clinically.

Histology

The diagnosis can be confirmed histologically following excisional biopsy and graded into patch, plaque or nodular grade disease. Diagnosis can be confirmed with HHV8 stains.

Investigations for patients with cutaneous KS

Visceral disease is uncommon, affecting about 10% at diagnosis, and computerised tomography (CT) scans, bronchoscopy and endoscopy are not warranted in the absence of symptoms.

Staging

The AIDS Clinical Trial Group staging system for AIDS-related KS was to predict survival and, unlike most cancer staging schemes, includes tumour-related criteria (T), host immunological status (I) and the presence of systemic illness (S).

Table 3: The modified AIDS Clinical Trials Group staging of Kaposi’s Sarcoma

<table>
<thead>
<tr>
<th>TIS staging of KS</th>
<th>Good risk (all of the following)</th>
<th>Poor risk (any of the following)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumour (T)</td>
<td>Confined to the skin, lymph nodes or minimal disease</td>
<td>Tumour-associated oedema or ulceration Extensive oral KS Gastrointestinal KS KS in other non-nodal viscera</td>
</tr>
<tr>
<td>Immune status (I)</td>
<td>CD4 cell count &gt;150 cells/ul</td>
<td>CD4 cell count &lt;150 cells/ul</td>
</tr>
<tr>
<td>Systemic illness (S)</td>
<td>Karnofsky performance status &gt;70</td>
<td>Karnofsky performance status &lt;70 or other HIV-related illness</td>
</tr>
</tbody>
</table>

Prevention

The introduction of highly active antiretroviral therapy (HAART) was associated with a substantial reduction in incidence of KS in patients in many large cohorts.
Cohort studies have demonstrated that HAART protects against the development of KS and that non-nucleoside reverse transcriptase inhibitor (NNRTI)-based regimens are as effective as protease inhibitor (PI)-based regimens in terms of their protection.\textsuperscript{6}

Specific therapies against human herpes virus-8 (HHV-8), the viral cause of KS, may also be helpful although these are unlikely to be effective against established lesions which contain mainly latent rather than lytic virus.

**Treatment**

**Prognostic scores**

The development of a prognostic index helps to guide patient treatment. It has been suggested that patients with a poor risk prognostic index (score $>12$) should be initially treated with HAART and systemic chemotherapy together while those with a good risk prognostic index (score $<5$) should be treated with HAART alone, even if they have T1 disease score.\textsuperscript{11}

**Local therapy**

Local treatments are most useful for managing localised bulky KS lesions or for cosmesis but cannot prevent new lesions appearing.

**Radiotherapy**

During the pre-HAART era, radiotherapy had an important and established role in the management of low-volume cutaneous KS, including the cosmetic control of skin lesions and the treatment of painful lesions on the soles, on the genitalia, in the oral cavity and on the conjunctiva.\textsuperscript{12}

An early randomised study of radiation fractionation for cutaneous KS showed that both response rate and duration of local control were better with fractionated regimes (40Gy in 20 fractions and 20Gy in 10 fractions) compared with an 8Gy single fraction, although toxicity and patient convenience were worse.\textsuperscript{13}

However, the side effects of radiotherapy in people with AIDS are often severe.\textsuperscript{11,14} This is particularly notable in the oral cavity and on the soles of the feet. Modified fractionated regimens and close attention to skin care, including avoidance of friction and sparing use of moisturisers, is required to keep toxicity as low as possible. The explanation for this increased toxicity is not clear.

90 Strontium brachytherapy is an effective and well tolerated treatment for the eyelid and conjunctival lesions.\textsuperscript{15} Although discomfort from radiotherapy is frequent, it usually resolves without intervention within 2 weeks of completion of radiotherapy.

**Other local therapies**

Alitretinoin gel (0.1%) (9-cis-retinoic acid) is a topical self-administered therapy approved for the treatment of KS in the USA but is not licensed in Europe.

Local problems such as gastrointestinal bleeding, perforation, volvulus, intussusception may be treated surgically, but surgery including amputation is no longer indicated in the routine management of this disease.

Intralesional vinblastine is the most widely used intralesional agent and responses of around 70% were reported in the pre-HAART era.\textsuperscript{16,17} Treated lesions usually fade and regress although typically do not resolve completely.
Systemic therapies

HAART

There are no randomised trials comparing HAART with no-HAART; as a result, all patients with KS should receive HAART.

Many case reports and small series have described the regression of KS with HAART (and individual antiretrovirals). HAART alone, and in combination with other treatment modalities, has been shown to prolong time to treatment failure in KS\textsuperscript{18} and to prolong survival in patients who have been treated for KS with chemotherapy.\textsuperscript{19}

No difference has been demonstrated in time to progression between patients receiving a PI-based HAART regimen and those receiving an NNRTI-based regimen despite the anti-angiogenic effects of PIs observed in the laboratory.\textsuperscript{17}

Cytotoxic chemotherapy

Systemic cytotoxic chemotherapy is warranted in patients with more advanced or rapidly progressive disease.

The decision to initiate systemic chemotherapy is usually based on a number of parameters including the prognostic index, response to HAART alone, patient performance status and end organ function, including hepatic and bone marrow reserve. Typical indications for systemic chemotherapy include widespread skin involvement such as more than 20 lesions, extensive KS of the oral cavity, tumour associated oedema or ulceration, symptomatic visceral involvement and immune reconstitution, and inflammatory syndrome-induced KS flare.\textsuperscript{20}

In the pre-HAART era, several chemotherapeutic agents (bleomycin, doxorubicin, vinblastine, vincristine and etoposide) were shown to have activity against KS.\textsuperscript{21,22,23,24} However, liposomal anthracyclines and taxanes have become established as the backbone of current standard systemic cytotoxic therapy against KS.

Three sizeable randomised controlled trials have compared liposomal anthracyclines with conventional chemotherapy regimens conducted in the pre-HAART era. There is insufficient evidence for a recommendation of which liposomal anthracycline to use.

Since the introduction of HAART, the duration of responses to treatment for KS have increased.\textsuperscript{25} Based on the response rates, median response durations and the toxicity profile, liposomal anthracyclines are considered the first-line chemotherapy for advanced KS. The safety and tolerability of these drugs in combination with HAART have been evaluated and the findings suggest that standard opportunistic infection prophylaxis guidelines may be followed when treating patients with liposomal anthracycline chemotherapy for KS.

Taxanes

Paclitaxel is approved for the treatment for KS.

The concomitant use of paclitaxel and HAART appears safe and not detrimental to immune function.\textsuperscript{26} These findings suggest that standard opportunistic infection prophylaxis guidelines may be followed when treating patients with taxane chemotherapy for KS.

The higher prevalence of alopecia, myalgias and myelosuppression and the need for a 3-hour infusion make paclitaxel a less attractive first-line option that pegylated liposomal doxorubicin (PLD). Moreover, the need
for corticosteroid administration (typically dexamethasone 10–20mg IV 30 minutes prior to paclitaxel, or 10mg PO 12 and 6 hours prior) to prevent allergic reactions raises further concerns for some clinicians.

The clinical experience with docetaxel in KS is much more limited, although two small studies suggest that this agent can produce meaningful responses when used weekly, or in anthracycline pre-treated individuals.28

Summary of recommendations

Early stage KS (T0 stage)
- HAART (level of evidence IIIB).
- Consider local radiotherapy or intralesional vinblastine for rapidly progressing or cosmetically disfiguring disease (level of evidence IIIB) and liposomal anthracycline for rapidly progressing KS.

Advanced stage KS (T1 stage)
- HAART and liposomal anthracycline (either DannoXome 40mg/m² every 14 days or Caelyx 20mg/m² every 21 days) (level of evidence Ib A).

Anthracycline-refractory KS
- HAART and paclitaxel (100mg/m² every 14 days) (level of evidence IIIB).

The AIDS Clinical Trials Group also established uniform criteria for response evaluation in AIDS KS.29

Table 4: Response criteria for HIV-associated Kaposi’s sarcoma

<table>
<thead>
<tr>
<th>Complete response (CR)</th>
<th>The complete resolution of all KS with no new lesions, lasting for at least 4 weeks. A biopsy required to confirm the absence of residual KS in flat lesions containing pigmentation. Endoscopies must be repeated to confirm the complete resolution of previously detected visceral disease.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical complete response (CCR)</td>
<td>Patients who have no detectable residual KS lesions for at least 4 weeks but whose response was not confirmed by biopsy and/or repeat endoscopy.</td>
</tr>
</tbody>
</table>
| Partial response (PR) | One or more of the following in the absence of (i) new cutaneous lesions, (ii) new visceral/oral lesions, (iii) increasing KS-associated oedema, and (iv) a 25% or more increase in the product of the bi-dimensional diameters of any index lesion:

1. A 50% or greater decrease in the number of measurable lesions on the skin and/or in the mouth or viscera.
2. A 50% or greater decrease in the size of the lesions as defined by one of the following three criteria: (a) a 50% or more decrease in the sums of the products of the largest bi-dimensional diameters of the index lesions (b) a complete flattening of at least 50% of the lesions (c) where 75% or more of the nodular lesions become indurated plaques. |
### Stable disease (SD)

Any response that does not meet the above criteria.

### Progressive disease (PD)

Any of the following:
1. A 25% or more increase in the product of the bi-dimensional diameters of any index lesion.
2. The appearance of new lesions.
3. Where 25% or more of the previously flat lesions become raised.
4. The appearance of new or increased KS-associated oedema.

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**Guidelines for skin care in organ transplant recipients**

As there is a high prevalence of skin cancers after organ transplantation, it is necessary to inform all patients at risk (relevant skin types and ethnic groups) about the need for sun protection, and all patients about self-surveillance.

All doctors and nurses looking after skin problems in transplant recipients must be members of their local multidisciplinary (MDT) team, and attend regular MDT meetings.

- All transplant recipients should be reviewed by a dermatologist one year post-transplant. They should be assessed with regard to risk of non-melanoma skin cancer (NMSC), melanoma and KS. They should be given written information on recognition and prevention of skin cancers, including the avoidance of sun exposure, use of protective clothing and use of an effective sunscreen (protection factor >30) for sun-exposed areas (e.g. head, neck, hands, arms and lower legs).

- Annual follow-up by a dermatologist or nurse specialist should occur – this may need to be more frequent in high-risk patients.

- Active treatment of pre-malignant lesions should be undertaken: field directed treatments, e.g. Efudix, imiquimod (currently off licence), topical diclofenac, and PDT should all be considered.

- All skin cancers should be completely removed according to established guidelines for these cancers in the immunocompetent population.

- Secondary prevention for recipients with skin cancer or pre-malignant lesions involves close follow-up by a dermatologist or nurse specialist at least every 3–6 months.

- In recipients with multiple and/or recurrent skin cancers, their management should be discussed with their transplant physicians and the MDT. Options would include:
  - reduction of immunosuppression
  - change of immunosuppressive drugs
  - field directed topical treatments
  - use of low dose systemic retinoids.

There is as yet no strong evidence base for these guidelines which are based on the consensus of experienced clinicians.
8 Carrieri et al. *Int J Cancer*, 2003; 103: 142-144
9 Mocroft et al, *Cancer* 2004; 100: 2644-2654
10 Engels et al, *AIDS* 2006; 20: 1645-54
Appendix 6: Treatment of Teenagers and Young Adults

The *Improving Outcomes in Children and Young People with Cancer* (NICE, 2005) and the subsequent *Manual for Cancer Services: Teenage and Young Adults Measures* (Department of Health, 2012) recommends that patients aged 16–18 are managed at a principal treatment centre (PTC) for teenager and young adult (TYA) cancers and that those aged 19–24 are given the choice of being managed at a PTC or TYA designated hospital.

- The PTC for TYA for South Thames is The Royal Marsden (Sutton).
- The PTC for North Thames (including North West London) is University College London Hospitals.

All patients within this age range, regardless of place of care, should be referred to the TYA multidisciplinary team (MDT) at the relevant PTC. Referral to the MDT should be made using the TYA referral form (see below) which can be found on the London Cancer Alliance website: [www.londoncanceralliance.nhs.uk/media/68982/TYA%20MDT%20proforma%20March%202014.doc](http://www.londoncanceralliance.nhs.uk/media/68982/TYA%20MDT%20proforma%20March%202014.doc).

Discussion at the TYA MDT is in addition to the site-specific MDT (SSMDT); key functions of the TYA MDT are to agree the treatment plan of the SSMDT, ensure cancer registration and provide a psychosocial care plan. Members of the SSMDT or TYA service at the PTC or TYA designated hospitals are invited to attend the TYA either remotely or in person.

### South Thames PTC contacts

<table>
<thead>
<tr>
<th>The Royal Marsden NHS Foundation Trust</th>
<th>Lead Clinician – Dr Julia Chisholm <a href="mailto:julia.chisholm@rmh.nhs.uk">julia.chisholm@rmh.nhs.uk</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TCT Nurse Consultant for Adolescents and Young Adults – Louise Soanes <a href="mailto:lsoanes@nhs.net">lsoanes@nhs.net</a></td>
</tr>
</tbody>
</table>

### London Cancer Alliance TYA designated centres contacts allied to The Royal Marsden PTC

<table>
<thead>
<tr>
<th>Joint Centre (Guy’s and St Thomas’ NHS Foundation Trust/King’s College Hospital NHS Foundation Trust)</th>
<th>Guy’s and St Thomas’</th>
<th>Lead Clinician – Dr Robert Carr <a href="mailto:Robert.carr@gstt.nhs.uk">Robert.carr@gstt.nhs.uk</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lead Nurse – Gavin Maynard-Wyatt <a href="mailto:Gavin.maynard-wyatt@gstt.nhs.uk">Gavin.maynard-wyatt@gstt.nhs.uk</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Joint Centre (Guy’s and St Thomas’ NHS Foundation Trust/King’s College Hospital NHS Foundation Trust)</th>
<th>King’s College Hospital</th>
<th>Lead Clinician – Dr Donal McLornan <a href="mailto:donal.mclornan@nhs.net">donal.mclornan@nhs.net</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lead Nurse – Gavin Maynard-Wyatt <a href="mailto:Gavin.maynard-wyatt@gstt.nhs.uk">Gavin.maynard-wyatt@gstt.nhs.uk</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>St George’s Healthcare NHS Trust</th>
<th>St George’s Hospital</th>
<th>Lead Clinician – Dr Jens Samol <a href="mailto:jens.samol@stgeorges.nhs.uk">jens.samol@stgeorges.nhs.uk</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lead Nurse – Linda Shephard <a href="mailto:Linda.shephard@stgeorges.nhs.uk">Linda.shephard@stgeorges.nhs.uk</a></td>
</tr>
</tbody>
</table>
### North Thames PTC contacts

| University College London Hospitals | Lead Clinician – Dr Rachael Hough  
Rachael.hough@uclh.nhs.uk  
TCT Nurse Consultant for Teenagers and Young Adults – Wendy King  
wendy.king@uclh.nhs.uk |

### London Cancer TYA designated centres contacts allied to University College London Hospitals PTC

| Chelsea and Westminster Hospital NHS Foundation Trust | Chelsea and Westminster (HIV and skin only) | Lead clinician – Dr Mark Bower (interim)  
Mark.Bower@chelwest.nhs.uk  
Lead Nurse – Kate Shaw (interim)  
Kate.Shaw@chelwest.nhs.uk |
| Imperial College Healthcare NHS Trust | Charing Cross | Lead Clinician – Dr Josu de la Fuente (deputy)  
j.delafuente@imperial.ac.uk  
Lead Nurse – Sinead Cope  
sinead.cope@imperial.nhs.uk |
| East and North Hertfordshire NHS Trust | Mount Vernon Cancer Centre | Lead Clinician (MVCC) – Dr Gordon Rustin  
grustin@nhs.net  
Lead Nurse (MVCC) – Laura Miles  
laura.miles@nhs.net |
External referrals to The Royal Marsden TYA MDT: please complete section A and provide copies of site-specific MDT outcome sheet and original pathology report. We are unable to register patient on the TYA database without this information.

**Section A: Patient details**

<table>
<thead>
<tr>
<th>Name:</th>
<th>DOB/Age:</th>
<th>Sex:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic origin:</td>
<td>Country of birth: UK Other, specify:</td>
<td></td>
</tr>
<tr>
<td>Referring hospital: [ ] NHS no: RMH no:</td>
<td>History &amp; diagnosis: Staging:</td>
<td></td>
</tr>
<tr>
<td>Treatment/protocol:</td>
<td>Referring consultant name and specialty: Name of key worker at referring hospital:</td>
<td></td>
</tr>
<tr>
<td>Discussed in site specific MDT?: Yes / No Details:</td>
<td>Reason for referral to RM TYA MDT: New case Relapse Progression On treatment Off treatment</td>
<td></td>
</tr>
<tr>
<td>Patient aware of diagnosis?: Yes / No</td>
<td>Patient aware of referral to TYA MDT?: Yes / No</td>
<td></td>
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</table>

**Section B: Record of RMH TYA MDT discussion**

<table>
<thead>
<tr>
<th>Date of TYA MDT:</th>
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<tbody>
<tr>
<td>Place of care: TYA unit RMH adult services RMH other designated TYA unit other hospital (specify)</td>
</tr>
<tr>
<td>Named consultant at RMH (if relevant): Named key worker at RMH (if relevant): TYA Designated Hospital / Shared care hospital</td>
</tr>
<tr>
<td>Family / social circumstances:</td>
</tr>
<tr>
<td>Education / work:</td>
</tr>
<tr>
<td>Psychosocial issues:</td>
</tr>
<tr>
<td>Site-specific MDT treatment plan accepted by TYA MDT?: Yes / No</td>
</tr>
<tr>
<td>Clinical trial: yes, on trial trial available but NOT on trial; specify why no relevant trial</td>
</tr>
<tr>
<td>Physician decision Patient/parent decision Not eligible Other (specify)</td>
</tr>
<tr>
<td>Fertility preservation discussed: Yes / No / Information not supplied / Not relevant</td>
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<tr>
<td>Action points arising from TYA MDT:</td>
</tr>
<tr>
<td>TYA MDT discussion documented by:</td>
</tr>
</tbody>
</table>

TYA MDT proforma V8LS1213
Appendix 7: Treatment of Children

Children below the age of 16 years with a diagnosis of cancer or suspected cancer must be referred to the paediatric oncology team at the principal treatment centre (PTC) and must not be managed exclusively by adult site-specific teams.

- The joint PTC for children aged 1–16 years for South Thames is The Royal Marsden (Sutton)/St George’s Hospital.
- The PTC for North Thames (including North West London) is Great Ormond Street Hospital/University College London Hospitals.
- All patients <1 year from both North and South Thames should be referred to Great Ormond Street Hospital.

For certain tumour types that are uncommon in children (e.g. skin, melanoma, head and neck, thyroid, gastrointestinal, hepatobiliary), the paediatric oncology team should liaise with the appropriate site-specific multidisciplinary team for advice about management and to agree surgical interventions, but overall responsibility for managing the patient remains with the paediatric oncology team.

Please see below for contact details for the children’s PTCs.

**South Thames PTC contacts**

| The Royal Marsden NHS Foundation Trust | Lead Clinician – Dr Julia Chisholm  
| julia.chisholm@rmh.nhs.uk  
| 020 8661 3549  
| Paediatric oncology oncall registrar (new referrals)  
| 0208 915 6248 (24h line) |

**North Thames PTC contacts**

| Great Ormond Street Hospitals  
(patients aged <13 years) | Lead Clinician – Darren Hargrave  
| darren.hargrave@nhs.net  
| 0208 915 6248 (24h line) |

| University College London Hospitals  
(patients aged >13 years) | Lead Clinician – Dr Sara Stoneham  
| sara.stoneham@uclh.nhs.uk  
| 0203 447 9950 |
Appendix 8: LCA Holistic Needs Assessment Tool

**London Holistic Needs Assessment**

For each item below, please tick yes or no if they have been a concern for you during the last week, including today. Please also tick discuss if you wish to speak about it with your health professional.

Choose not to complete the assessment today by ticking this box.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Practical concerns</th>
<th>Yes</th>
<th>No</th>
<th>Discuss</th>
<th>Physical concerns</th>
<th>Yes</th>
<th>No</th>
<th>Discuss</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Caring responsibilities</td>
<td></td>
<td></td>
<td></td>
<td>High temperature</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Housing or finances</td>
<td></td>
<td></td>
<td></td>
<td>Wound care</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Transport or parking</td>
<td></td>
<td></td>
<td></td>
<td>Passing urine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work or education</td>
<td></td>
<td></td>
<td></td>
<td>Constipation or diarrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Information needs</td>
<td></td>
<td></td>
<td></td>
<td>Indigestion</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Difficulty making plans</td>
<td></td>
<td></td>
<td></td>
<td>Nausea and/or vomiting</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Grocery shopping</td>
<td></td>
<td></td>
<td></td>
<td>Cough</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Preparing food</td>
<td></td>
<td></td>
<td></td>
<td>Changes in weight</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Bathing or dressing</td>
<td></td>
<td></td>
<td></td>
<td>Eating or appetite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laundry or housework</td>
<td></td>
<td></td>
<td></td>
<td>Changes in taste</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Family concerns</td>
<td></td>
<td></td>
<td></td>
<td>Sore or dry mouth</td>
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</tr>
<tr>
<td></td>
<td>Relationship with children</td>
<td></td>
<td></td>
<td></td>
<td>Feeling swollen</td>
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<tr>
<td></td>
<td>Relationship with partner</td>
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<td>Breathlessness</td>
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<tr>
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<td>Family concerns</td>
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<td>Pain</td>
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</tr>
<tr>
<td></td>
<td>Emotional concerns</td>
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<td></td>
<td></td>
<td>Dry, itchy or sore skin</td>
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<tr>
<td></td>
<td>Loneliness or isolation</td>
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<td>Tingling in hands or feet</td>
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<td></td>
<td>Sadness or depression</td>
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<td>Hot flushes</td>
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<td>Worry, fear or anxiety</td>
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<td>Moving around or walking</td>
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<tr>
<td></td>
<td>Anger, frustration or guilt</td>
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<td>Fatigue</td>
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<tr>
<td></td>
<td>Memory or concentration</td>
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<td></td>
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<td>Sleep problems</td>
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<td></td>
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<td>Communication</td>
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<td>Sexual concerns</td>
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<td>Personal appearance</td>
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<td></td>
<td>Other medical condition</td>
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<tr>
<td></td>
<td>Spiritual concerns</td>
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</tr>
</tbody>
</table>

For health professional use

**Care Plan**

During my holistic needs assessment, these issues were identified and discussed:

- **Example**: Breathlessness  Referral to anxiety management programme; CNS to complete by 24th Dec
- **Example**: Coping strategies discussed  Printed information provided
- **Example**: Possible causes identified  Referral to anxiety management programme; CNS to complete by 24th Dec
- **Example**: Treatment for depression  Printed information provided

Other actions/outcomes e.g. a digital information pack, referral to smoking cessation, “My actions”:

Signed (patient):  
Signed (healthcare professional):  

For health professional use

Date of diagnosis:  
Diagnosis:  
Pathway point:
Appendix 9: LCA Key Worker Policy

Definition

A key worker is a person who, with the patient’s consent and agreement, takes a key role in coordinating the patient’s care and promoting continuity, ensuring that the patient knows who to access for information and advice in relation to their cancer diagnosis. In addition, the key worker will facilitate patients making informed decisions about their treatment.

The implementation of the key worker role is a requirement of the National Cancer Peer Review programme and is detailed in the Manual for Cancer Services, originally published by the National Cancer Action Team (NCAT), and related site-specific Improving Outcomes Guidance, issued by the National Institute for Health and Care Excellence.

Principles and responsibilities

Designation

1. The key worker is a named clinical member of the site-specific multidisciplinary team (MDT) and acts as the point of contact between the patient and MDT.
2. The key worker is a healthcare professional.
3. The key worker is assigned by the core Clinical Nurse Specialist (CNS) of an MDT, agreed by the MDT and recorded within the patient record and multidisciplinary meeting proforma.
4. The name of the key worker, designation and contact details will also be recorded in the patient handheld record (PHR), if used, and included in all correspondence and in the patient medical records. All entries in the medical notes will comply with the NHS Litigation Authority standards.

Access

5. All cancer patients will be made aware of their allocated key worker, but have the right to ask for an alternative if they prefer. This will usually happen at diagnosis.
6. The key worker will provide a contact number to all the patients for whom they act as the key worker.

Multi-professional communication

7. If a more appropriate person is identified as a key worker at a point in the patient’s pathway, this will be discussed and agreed by the patient and the key worker, and recorded in the patient’s notes. This situation is most likely to arise with referral to the palliative care team. In such cases the palliative care CNS will then negotiate and document care responsibilities in the patient’s notes.
8. The key worker may change as patients pass through various stages of the care trajectory or when care is transferred to a different Trust. It is the responsibility of the key worker to hand over to the next one, to document this in the patient’s notes and to keep the patient informed.
9. The key worker will lead on patient communication issues and coordination of the pathway for patients referred to the team.
10. The key worker will ensure that the patient pathway is coordinated and all relevant information is transferred to the appropriate professionals as the patient moves across care boundaries, e.g. on admission to and discharge from institutions, when care is transferred between teams.

11. The key worker has responsibility for ensuring holistic needs assessments (HNAs) are recorded/documentated in patient records.

**Patient communication and support**

12. Where possible, the key worker will be available to support the patient on diagnosis to signpost and provide them with information and contacts for the MDT, national information and support services, self-help groups and associated site-specific support.

13. If the key worker is not available at the time of diagnosis, the person who is providing support at the time will ensure that the patient is aware of the key worker role and provide the relevant contact details.

14. The key worker will be accessible to the patient as a constant point of contact, handing over to colleagues when unavailable and making sure that the patient has clear information about alternative contacts and cover arrangements.

15. The key worker will provide information, care and support throughout the patient journey regardless of the patient’s condition, liaising between health professionals to ensure continuity of care and a seamless service.

**Data/audit**

16. The key worker will contribute to the audit of key worker role in their organisation

**Annex: NCAT peer review standard**

There should be an operational policy whereby a single named key worker for the patient’s care at a given time is identified by the MDT members for each individual patient and the name and contact number of the current key worker is recorded in the patient’s case notes. The responsibility for ensuring that the key worker is identified should be that of the nurse MDT member(s).

The above policy should have been implemented for patients who came under the MDT’s care after publication of these measures and who are under their care at the time of the peer review visit.

**Notes**

- According to the NICE supportive and palliative care guidance, a key worker is a person who, with the patient’s consent and agreement, takes a key role in coordinating the patient’s care and promoting continuity, e.g. ensuring that the patient knows who to access for information and advice. This is not intended to have the same connotation as the key worker in social work.

- It may be necessary to agree a single key worker across both a cancer site-specific MDT and the specialist palliative care MDT for certain patients.
Appendix 10: LCA Specialist Palliative Care Referral Form

Specialist Palliative Care (SPC) Community and SPC Inpatient Unit Referral Form

<table>
<thead>
<tr>
<th>Greenwich &amp; Bexley Community Hospice</th>
<th>Lewisham Macmillan Community Team</th>
<th>St Christopher's Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bostall Hill, Abbey Wood SE2 0GB</td>
<td>Lewisham High Street SE13 6LH</td>
<td>Lawrie Park Rd, London SE26 6DZ</td>
</tr>
<tr>
<td>Home care:</td>
<td>Tel: 020 8333 3017, Fax: 020 8333 8270</td>
<td>Home care:</td>
</tr>
<tr>
<td>Admissions:</td>
<td>Tel: 020 83258537, Fax: 020 83205839</td>
<td>Tel: 020 8776 5656, Fax: 020 87765798</td>
</tr>
<tr>
<td></td>
<td>Tel: 020 83243444, Fax: 020 83122444</td>
<td>Admissions:</td>
</tr>
<tr>
<td></td>
<td>Tel: 020 87684582, Fax: 020 86595051</td>
<td>Admissions:</td>
</tr>
<tr>
<td></td>
<td>Tel: 01689 825755, Fax: 01689 892999</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Guy's &amp; St Thomas' Community Team:</th>
<th>Meadow House Hospice</th>
<th>St John's Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guy's Hospital, Great Maze Pond</td>
<td>Southall UB1 3HW</td>
<td>Grove End Road, St John's Wood</td>
</tr>
<tr>
<td>SE1 9RT</td>
<td>Tel: 020 71884754, Fax: 020 71884748</td>
<td>NW8 9NH</td>
</tr>
<tr>
<td>Tel: 020 71884754, Fax: 020 71884748</td>
<td>Fax: 020 89675179</td>
<td>Tel: 020 78064040, Fax: 020 78064041</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arlington Hospice</th>
<th>Michael Sobell House</th>
<th>St Luke's Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>St Peter's Way, Harlington UB3 5AB</td>
<td>Northwood, Middx HA6 2HN</td>
<td>Kenton Road, Harrow HA3 0YG</td>
</tr>
<tr>
<td>Tel: 020 87590458, Fax: 020 87590400</td>
<td>Tel: 01928 844581, Fax: 01928 844545</td>
<td>Tel: 020 88828080, Fax: 020 88828080</td>
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</table>

<table>
<thead>
<tr>
<th>Marrow Community Team</th>
<th>Pembridge Palliative Care Centre</th>
<th>St Raphael's Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenton Road, Harrow</td>
<td>Exmooor Street, W10 6DZ</td>
<td>London Road, North Cheam</td>
</tr>
<tr>
<td>HA3 0YG</td>
<td>Tel: 020 8962 4410, Fax: 020 89624422</td>
<td>SM3 9DX</td>
</tr>
<tr>
<td>Tel: 020 83826084, Fax: 020 83828085</td>
<td>Community Services Fax: 020 89624413</td>
<td>Tel: 020 80997777, Fax: 020 8099 1724</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hillingdon Community Team</th>
<th>Princess Alice Hospice</th>
<th>Trinity Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pield Heath Road, Uxbridge</td>
<td>West End Lane, Esher</td>
<td>Clapham Common</td>
</tr>
<tr>
<td>UB8 3NN</td>
<td>KT10 8NA</td>
<td>SW4 0RN</td>
</tr>
<tr>
<td>Tel: 01895 279412, Fax: 01895 279452</td>
<td>Tel: 020 872 461304, Fax: 01372 470937</td>
<td>Tel: 020 7787 1000</td>
</tr>
</tbody>
</table>

For further information and advice on these services, please visit the Help the Hospices service directory at: http://www.helpthepartnership.org.uk/about-hospice-care/find-a-hospital/ and enter the postcode provided above.

Every LCA hospital has a Specialist Palliative Care Team;
if your patient is a hospital inpatient, please contact the team, via the relevant hospital switchboard.

**FAX MESSAGE**

<table>
<thead>
<tr>
<th>From:</th>
<th>To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fax No:</td>
<td>Date:</td>
</tr>
<tr>
<td>No. of pages (incl cover sheet):</td>
<td></td>
</tr>
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</table>

**Additional Information**

**Confidentiality:** The content of this fax and attached documents are confidential and intended for use of the individual/jurisdiction designated above. If you are not the addressee, you are hereby notified that you may not disclose, reproduce or otherwise disseminate or make use of this information for yourself or any third party. If you have received this in error, please notify us on the telephone number given above.

**PLEASE SEND COPIES OF RECENT CLINICAL CORRESPONDENCE WITH THIS FORM – INCLUDING RECENT CLINICAL LETTERS, BLOOD TESTS AND MOST RECENT IMAGING**

**NB. INSUFFICIENT INFORMATION MAY DELAY PATIENT ASSESSMENT**

**PATIENT NAME:..........................................................NHS No:..........................................................**

LCA Palliative Care Group Revised April 2014
# Referral Form for SPC Community and Inpatient Units (2/3)

## Essential Patient Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surname</td>
<td></td>
</tr>
<tr>
<td>Male/Female</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Patient consent to palliative care involvement?</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>DoB</td>
<td></td>
</tr>
<tr>
<td>Is GP aware of referral?</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Tel</td>
<td></td>
</tr>
<tr>
<td>Mob</td>
<td></td>
</tr>
<tr>
<td>NHS number</td>
<td></td>
</tr>
<tr>
<td>Hospital No.</td>
<td></td>
</tr>
</tbody>
</table>

## Primary diagnosis(es)

## Communication

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluent in English? Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>First Language, if not English:</td>
<td></td>
</tr>
<tr>
<td>Would interpreter be helpful to patient and Palliative Care staff? Yes □ No □</td>
<td></td>
</tr>
</tbody>
</table>

## Next of Kin/Patient Representatives

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Relationship to patient</td>
<td></td>
</tr>
</tbody>
</table>

## Main Carer (if different from above)

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Relationship to patient</td>
<td></td>
</tr>
</tbody>
</table>

## Reason for Referral

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain/symptom control</td>
<td></td>
</tr>
<tr>
<td>Emotional/psychological support</td>
<td></td>
</tr>
<tr>
<td>Social/financial</td>
<td></td>
</tr>
<tr>
<td>Assessment for hospice admission</td>
<td></td>
</tr>
<tr>
<td>Care support</td>
<td></td>
</tr>
<tr>
<td>Other reason (please give details below)</td>
<td></td>
</tr>
</tbody>
</table>

## Service requested

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home assessment and support</td>
<td></td>
</tr>
<tr>
<td>Hospital assessment</td>
<td></td>
</tr>
<tr>
<td>Day Care</td>
<td></td>
</tr>
<tr>
<td>Outpatient service</td>
<td></td>
</tr>
<tr>
<td>Admissions [circle]</td>
<td></td>
</tr>
<tr>
<td>Respite / symptomatic control / terminal care</td>
<td></td>
</tr>
<tr>
<td>Hospice at Home</td>
<td></td>
</tr>
<tr>
<td>Does patient live alone? Yes □ No □</td>
<td></td>
</tr>
</tbody>
</table>

## The patient is currently

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Home</td>
<td></td>
</tr>
<tr>
<td>In Hospital (see over)</td>
<td></td>
</tr>
<tr>
<td>Other e.g. Nursing Home</td>
<td></td>
</tr>
<tr>
<td>Please specify</td>
<td></td>
</tr>
</tbody>
</table>

## Reasoning

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is REFERRAL URGENT (assess within 2 working days)? Yes □ No □</td>
<td></td>
</tr>
<tr>
<td>IF URGENT, PLEASE PHONE US FOR IMMEDIATE ADVICE</td>
<td></td>
</tr>
</tbody>
</table>

---

LCA Palliative Care Group Revised April 2014
## Referral Form for SPC Community and Inpatient Units (3/3)

### In-Patient details

<table>
<thead>
<tr>
<th>Hospital</th>
<th>NHS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ward</th>
<th>Direct Ward Ext.</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key worker</th>
<th>Date of discharge (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Is Palliative Care Team involved?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Brief History of diagnosis(es) and Key treatments

<table>
<thead>
<tr>
<th>Date</th>
<th>Progression of disease and investigations/treatment</th>
<th>Consultant and hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Current palliative care problems

1.  
2.  
3.  
4.  
5.  
6.  

<table>
<thead>
<tr>
<th>Patient Mobility</th>
<th>Bariatric Nursing required</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Any other comments/information (including preferences expressed about care or other psychosocial or spiritual issues)


### Referrer's expectation of current treatment

(please circle) symptom control / life prolonging / curative

<table>
<thead>
<tr>
<th>Prognosis: In your opinion, is the patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable? Yes</td>
</tr>
<tr>
<td>Is death anticipated within:</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient on Coordinate My Care?</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the GSF register?</td>
<td>Yes</td>
<td>No</td>
<td>Unknown</td>
</tr>
<tr>
<td>DNA CPR in place?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### Past Medical and Psychiatric History

<table>
<thead>
<tr>
<th>Current Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Drug Sensitivities/Allergies: Yes</td>
</tr>
<tr>
<td>Details:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insight: Has patient been told diagnosis?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does patient discuss the illness freely?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Is the carer aware of patient's diagnosis?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Please ensure patients are aware information will be held on computer according to the Data Protection Act.

### Referrer's signature:

Name: (please print)  
Job title:  
Contact number:  
Surgery or Hospital:  
Date:  

---

LCA Palliative Care Group Revised April 2014
# Appendix 11: Contributing authors

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acland, Dr Katherine</td>
<td>Guy’s and St Thomas’ NHS Foundation Trust</td>
</tr>
<tr>
<td>Algurafi, Dr Hafiz</td>
<td>Southend University Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Allan, Dr Rosemary</td>
<td>St George’s Healthcare NHS Trust</td>
</tr>
<tr>
<td>Barlow, Dr Clare</td>
<td>Taunton and Somerset NHS Foundation Trust</td>
</tr>
<tr>
<td>Board, Dr Ruth</td>
<td>Lancashire Teaching Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>Brown, Dr Ewan</td>
<td>Western General Hospital, Edinburgh</td>
</tr>
<tr>
<td>Burrows, Dr Lorna</td>
<td>Salisbury NHS Foundation Trust</td>
</tr>
<tr>
<td>Chao, Dr David</td>
<td>Royal Free Hospital, London</td>
</tr>
<tr>
<td>Clarke, Dr Amanda</td>
<td>Maidstone and Tunbridge Wells NHS Trust</td>
</tr>
<tr>
<td>Cook, Prof Martin</td>
<td>Royal Surrey County Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Corrie, Dr Pippa</td>
<td>Cambridge University Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>Dalgleish, Prof Angus</td>
<td>St George’s, University of London</td>
</tr>
<tr>
<td>Danson, Dr Sarah</td>
<td>Weston Park Hospital, Sheffield</td>
</tr>
<tr>
<td>Evans, Prof Jeff</td>
<td>The Beatson Institute for Cancer Research, Glasgow</td>
</tr>
<tr>
<td>Faust, Dr Guy</td>
<td>Northampton General Hospital NHS Trust</td>
</tr>
<tr>
<td>Goodman, Dr Andrew</td>
<td>Royal Devon and Exeter NHS Foundation Trust</td>
</tr>
<tr>
<td>Gore, Prof Martin</td>
<td>Royal Marsden NHS Foundation Trust</td>
</tr>
<tr>
<td>Harries, Dr Mark</td>
<td>Guy’s and St Thomas’ NHS Foundation Trust</td>
</tr>
<tr>
<td>Harwood, Dr Catherine</td>
<td>Centre for Cutaneous Research Blizard Institute of Cell and Molecular Science Barts and the London School of Medicine and Dentistry, Queen Mary University of London</td>
</tr>
<tr>
<td>Herbert, Dr Chris</td>
<td>University Hospitals Bristol NHS Foundation Trust</td>
</tr>
<tr>
<td>Highley, Dr Martin</td>
<td>Plymouth Hospitals NHS Trust, Derriford Hospital,</td>
</tr>
<tr>
<td>Hill, Prof Jonathan</td>
<td>Lancashire Teaching Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>Kumar, Dr Satish</td>
<td>Velindre Hospital, Cardiff</td>
</tr>
<tr>
<td>Larkin, Dr James</td>
<td>The Royal Marsden NHS Foundation Trust</td>
</tr>
<tr>
<td>Lorigan, Dr Paul</td>
<td>The Christie NHS Foundation Trust</td>
</tr>
<tr>
<td>MacKie, Prof Rona</td>
<td>University of Glasgow</td>
</tr>
<tr>
<td>Marples, Dr Maria</td>
<td>St James’s University Hospital, Leeds</td>
</tr>
<tr>
<td>Marsden, Dr Jerry</td>
<td>University Hospitals Birmingham NHS Foundation Trust</td>
</tr>
<tr>
<td>Marshall, Dr Ernie</td>
<td>Clatterbridge Centre for Oncology NHS Foundation Trust</td>
</tr>
</tbody>
</table>
Middleton, Prof Mark   Oxford University Hospitals NHS Foundation Trust
Moncrieff, Mr Marc   Norfolk & Norwich University Hospital NHS Foundation Trust
Mowatt, Mr David   The Christie NHS Foundation Trust
Mulatero, Dr Clive   St James’s Institute of Oncology, Leeds
Nathan, Dr Paul   East and North Hertfordshire NHS Trust
Nicholson, Dr Stephen   Charing Cross Hospital, Imperial College Healthcare NHS Trust, London
Nicolson, Dr Marianne   Aberdeen NHS Grampian
Nobes, Dr Jenny   Norfolk and Norwich University Hospitals NHS Foundation Trust
Ottensmeier, Prof Christian   Southampton University Hospitals
Patel, Prof Poulam   Nottingham University Hospitals
Plummer, Prof Ruth   Newcastle Hospitals NHS Foundation Trust
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Sweetman, Dr Lorna   The Christie NHS Foundation Trust
Szlosarek, Dr Peter   Barts Health NHS Trust, London
Talbot, Dr Toby   Royal Cornwall Hospitals NHS Trust
Wagstaff, Prof John   Singleton Hospital, Swansea
Waterston, Dr Ashita   NHS Greater Glasgow and Clyde
Westwell, Dr Sarah   Brighton and Sussex University Hospitals NHS Trust