

## Health Professional Care Plan Information

### Treatment of Non-Small Cell Lung Cancer at The Christie

# Post-operative Radiotherapy

## Introduction

This information is for health care professionals involved in the care of patients receiving at The Christie NHS Foundation Trust under the care of the Lung Cancer Disease Group, for non-small cell lung cancer.

## Brief description of the treatment

Radical radiotherapy for NSCLC consists of 2 phases; treatment planning and treatment delivery. Treatment planning requires the patient to have a radiotherapy planning CT scan prior to starting treatment where 3 permanent ink marks (the size of a small freckle) are applied to the thorax. Treatment delivery takes place on consecutive weekdays, usually for once daily for 20 sessions (4 weeks) but sometimes up to 30-33 sessions (6-6.5 weeks). The patient is reviewed by a clinician on a weekly basis during treatment delivery in the radiotherapy clinic.

## Mechanism of action

Radiotherapy leads to ionisation reactions in tissue. This results in a series of reactions which results in DNA damage to both tumour and normal tissue. Irreparable damage leads to cell death, resulting in regression of any remaining microscopic tumour cells, but also side effects from treatment.

## Anticipated benefits

This is a radical treatment given with curative intent in patients following surgical resection when a review of the specimen by a pathologist has confirmed microscopic residual disease at the bronchial resection margin. Treatment is given to reduce the risk of local recurrence.

## Success rate

Survival following surgery for NSCLC is dependant on the stage of the disease. Survival is significantly worse in patients who have microscopic disease present at the bronchial resections margin. The role of post-operative radiotherapy in this setting has not been validated but is widely administered in the UK to reduce the risk of local recurrence.

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## **Risks and side effects**

Side effects from radiotherapy are considered acute (occurring during radiotherapy and for up to 3 months after, and are usually reversible) and late effects (long term, irreversible damage from radiotherapy). The main acute side-effects for this treatment are: skin reaction, radiation oesophagitis, radiation pneumonitis, and lethargy. Late effects are rare (<5%) and include: radiation pulmonary fibrosis, oesophageal strictures, and musculoskeletal damage (e.g. rib fractures),

Because of the rare but potentially life-threatening risk of radiation pneumonitis, patients are counselled about the need to be vigilant in reporting worsening respiratory symptoms, particularly breathlessness on minimal exertion to the radiotherapy team whilst attending for daily treatment, and their lung cancer clinical nurse specialist thereafter.

**24 hour medical helpline: The Christie Hotline 0161 446 3658**

## **Detailed description of care plan**

### ***Initial investigations***

Staging CT scan (thorax and abdomen +/- brain), EBUS/mediastinoscopy as appropriate, full lung function tests are desirable. The patient will have a radiotherapy planning CT scan before starting treatment with radiotherapy (when 3 permanent ink marks will be applied to the chest wall – one over sternum, one in each axilla).

### ***Description of treatment***

Radiotherapy delivered once daily, 5-days a week, over 4 weeks (20 fractions) or 6 to 6.5 weeks (30-33 fractions). Each fraction requires patient to lie supine with arms resting above head for 10-15 minutes.

### ***Supportive medications(administered as required)***

Radiation oesophagitis: sucralfate suspension, paracetamol mucilage, codeine phosphate liquid, oromorph, fentanyl patch. Soft diet/oral dietary supplements if required.

Radiation pneumonitis: oral steroids/antibiotics/antifungals

Radiation dermatitis: E45 cream/1% hydrocortisone cream

### ***Planned investigations***

Response to radiotherapy is difficult to evaluate immediately post-treatment. Chest x-rays/CT scans are sometimes planned during follow-up.

## **Alternative treatments**

Patients will often have received adjuvant chemotherapy before post-operative radiotherapy. The alternative treatment to post-operative radiotherapy in patients who

have microscopic disease present at the bronchial resection margin is active surveillance.

## **Responsibilities – who does what**

### ***The hospital team***

The Consultant team at The Christie will be responsible for supervising the oncologic care of the patient. This will include planning, approving and prescribing the radiotherapy, prescribing supportive care medication, and arranging tests and scans as required. The treatment radiographers and medical physicists will be responsible for planning and delivering the radiotherapy treatment

### ***GP and Community palliative care support***

Management of the community aspects of care remain the responsibility of the GP. Lung cancer patients are likely to have poor performance status, troublesome symptoms, and emotional needs; this is in addition to any co-morbidities that exist prior to a cancer diagnosis. Patients with advanced disease may have a life expectancy is less than 12 months therefore it is appropriate to add your patient to the GP practice Gold Standards Framework End of Life/Palliative Care Register. We encourage patients with advanced disease to accept referral to district and Macmillan nurse services early in their disease journey so they are known to palliative care services as and when their needs increase.

You will receive regular letters of update regarding your patient's progress.

### ***Other specialist teams***

If your patient is also under the care of other hospital teams they should continue to attend their appointments unless otherwise advised