

# NCCP advice for medical professionals on the management of patients undergoing lung cancer radiotherapy in response to the current novel coronavirus COVID 19 pandemic

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**This document relates to patients who do not have COVID-19 or are not suspected of having COVID-19.**

**Current events surrounding the COVID-19 pandemic are challenging and all public health bodies are placing the safety of patients, staff and communities first in all decisions.**

**This is an evolving situation. This advice is based on current information, it is additional to the advice of the NPHET, the HSE and the DoH, and will be updated as necessary.**

**The NCCP acknowledges that each hospital is working under individual constraints, including staff and infrastructure, and as a result will implement this advice based on their own unique circumstances.**

**The purpose of this advice is to maximise the safety of patients and make the best use of HSE resources, while protecting staff from infection. It will also enable services to match the capacity for cancer care to patient needs if services become limited due to the COVID-19 pandemic.**

**Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment.**

## 1 NPHET, HSE and DoH advice

Hospitals will operate under the overarching advice of the National Public Health Emergency Team (NPHET), the HSE and the DoH. Information is available at:

- HSE HPSC - <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/>
- HSE Coronavirus (COVID-19) - <https://www2.hse.ie/conditions/coronavirus/coronavirus.html>
- DoH Coronavirus (COVID-19) - <https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/>
- Ireland's National Action Plan in response to COVID-19 (Coronavirus) - <https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/>

## 2 Purpose

The purpose of this document is to provide guidance to medical professionals on the management of patients undergoing lung cancer radiotherapy during the COVID-19 pandemic.

In general, lung cancers are at high risk of progression and delaying treatment has been demonstrated to have a detrimental effect on outcome<sup>1-4</sup>.

### 3 Scope

The scope of this guidance document is the radical and palliative management of lung cancer.

It does not include recommendations on the management of brain metastasis treated with intracranial stereotactic radiosurgery (SRS).

#### 3.1 Pathological subtype and staging

The present document refers to:

- 2015 WHO classification for lung cancer pathology
- Lung Cancer TNM 8<sup>th</sup> classification

#### 3.2 Recommendations for lung cancer radiotherapy during the COVID-19 pandemic

These recommendations are in line with international guidelines for the COVID-19 pandemic<sup>5</sup>.

#### 3.3 Alternative Treatment indications

In the context of the COVID-19 crisis, three alternative therapeutic options are considered:

- Standard = indication and timing as per standard (but radiotherapy schedule can be modified)
- Delay = indication confirmed, but a delay in initiation of treatment is acceptable (e.g. a limited delay including a period of observation)
- Omit = consider no treatment in light of an unfavourable risk/benefit ratio.

### 4 Proposed Implementation according to capacity

Please refer to ‘NCCP advice on radiation therapy capacity escalation plan in response to the current COVID 19 pandemic’ for further information.

Level 1	Minimal capacity impact	Standard Practice
Level 2	Less than 80% capacity	Standard Practice
Level 3	Less than 50% capacity	Alternative RT schedule/Standard Indication
Level 4	Less than 25% capacity	Alternative RT schedule/Alternative treatment options
Level 5	Less than 10 % capacity	Individual case discussion

## 5 Radical Radiotherapy/SABR (Non-metastatic NSCLC & Limited Stage SCLC)

<b>Non-Small Cell Lung Cancer (NSCLC)</b>		
<b>Stage/clinical scenario</b>	<b>Potential selection criteria</b>	<b>Treatment recommendations</b>
<b>T1-T2 (selected T3), N0, M0 – eligible for SABR</b>	Small tumour and slow growing disease (documented slow growth of previous imaging or pure lepidic adenocarcinoma on biopsy & imaging)	Delay (taking into account capacity, risk/benefit to patient) or standard
<b>T1-T2 (selected T3), N0, M0 – eligible for SABR</b>	Large tumour and/or tumour location making patient potentially not eligible for SABR if tumour growth and/or tumour with documented progression on previous serial imaging and/or pathological subtypes other than pure lepidic adenocarcinoma	Standard
<b>T1-T2 (selected T3), N0, M0 – non-eligible for SABR but eligible for radical radiotherapy</b>	Small tumour and slow growing disease (documented slow growth of previous imaging or pure lepidic adenocarcinoma on biopsy & imaging)	Delay (taking into account capacity, risk/benefit to patient) or standard
<b>T1-T2 (selected T3) N0, M0 – non-eligible for SABR but eligible for radical radiotherapy</b>	Large tumour and/or tumour with documented progression on previous serial imaging and/or pathological subtype other than pure lepidic adenocarcinoma	Standard
<b>Locally advanced NSCLC – eligible for radical Radiotherapy +/- chemotherapy</b>	None	Standard

<b>Limited Stage Small Cell Lung Cancer (LS-SCLC)</b>		
<b>Stage/clinical scenario</b>	<b>Potential selection criteria</b>	<b>Treatment recommendations</b>
Limited stage (T1-T4, N0-N3, M0) –volume eligible for concomitant chemo-thoracic radiotherapy	None	Standard (timing to be discussed, preferably between chemotherapy cycle 2 and 3)
Limited stage (T1-T4, N0-N3, M0) for sequential chemo - thoracic radiotherapy	None	Standard
Limited stage – eligible for consolidation prophylactic cranial irradiation (PCI)	None	Delay (taking into account capacity, risk/benefit to patient) or standard

## 6 Palliative Radiotherapy

<b>Emergency</b>		
<b>Indication</b>	<b>Potential Selection Criteria</b>	<b>Treatment recommendations</b>
Spinal cord compression not eligible for decompressive surgery	Preserved sphincter motor function/responding to steroids /preserved general condition/ reasonable life expectancy	Standard
	If none above	Omit RT (Best supportive care)
Tumour related bleeding	Failing and/or not eligible for alternative medical management and/or interventional radiology procedure (embolization)	Standard
Tumour related airway compression	Failing and/or not eligible for alternative medical management and/or interventional radiology procedure (stent)	Standard

Non-emergency		
Indication	Potential Selection Criteria	Treatment recommendations
Symptomatic primary tumour / none or soft tissue metastasis	Failing medical management	Standard or delay at level 3,4,5
SVCO without airway compression	Failing and/or not eligible for alternative medical management and/or interventional radiology procedure (stent)	Standard or delay at level 3,4,5
Multiple brain metastases	Preserved neurological function / responding to steroids / preserved general condition / reasonable life expectancy	Standard or delay at level 3,4,5
	If none above	Omit RT (Best supportive care )

## 7 Consolidation Radiotherapy for Extensive Stage Small cell lung Cancer

Extensive Stage Small Cell – extensive stage (large volume and/or any M1 stage)		
	Standard	Alternative
Consolidation prophylactic cranial irradiation (PCI)	PCI (except in patients age > 75 , low performance status, life expectancy less than 3 months, mental disorders)	Omit up front PCI and undertake MRI based Brain surveillance (MRI brain follow-up at 3, 6, 9, 12, 18 and 24 months) with salvage treatment of asymptomatic brain metastases with either cranial irradiation or chemotherapy <sup>6</sup>
Consolidation Thoracic Radiotherapy	Thoracic Radiotherapy	Omit thoracic radiotherapy in case of complete thoracic response <sup>7</sup>

## 8 Radiotherapy schedules recommendations

Taking into consideration the department workforce availability and the individual patient risk benefit of multiple attendances in the radiotherapy benefit, alternative hypofractionated radiation schedule can be considered when applicable.

### 8.1 Radical Radiotherapy

<b>Non-Small Cell Lung Cancer - SABR</b>		
<b>Pathological subtype / stage</b>	<b>Standard Schedule (s)</b>	<b>Recommended alternative hypofractionated Schedule (s) when applicable</b>
<b>T1-T2 (selected T3), N0, M0 – eligible for SABR- peripheral low risk</b>	54-60 Gy/3	34 Gy/1
<b>T1-T2 (selected T3), N0, M0 – eligible for SABR- peripheral medium risk (pleural based)</b>	60 Gy/5	60 Gy/5
<b>T1-T2 (selected T3), N0, M0 – eligible for SABR- central - low risk</b>	60 Gy/8	57.5 Gy/5

<b>Non-Small Cell Lung Cancer - EBRT</b>		
<b>Pathological subtype / stage</b>	<b>Standard Schedule (s)</b>	<b>Recommended alternative hypofractionated Schedule (s) when applicable</b>
<b>T1-T2 (selected T3), N0, M0 – non-eligible for SABR but eligible for radical radiotherapy</b>	60-66 Gy/30-33	55 Gy/20
<b>Locally advanced – (T1-T4, N0-3, M0) for concomitant chemo-radiotherapy</b>	60-66 Gy/30-33	55Gy/20 only possible with selected concomitant chemotherapy regimens following discussion with medical oncology <sup>8-10</sup> Cisplatin/vinorelbine Cisplatin/etoposide
<b>Locally advanced – (T1-T4, N0-3, M0) for sequential chemo-radiotherapy</b>	60-66 Gy/30-33	55 Gy/20

Small Cell Lung Cancer		
Pathological subtype / stage	Standard Schedule (s)	Recommended alternative hypofractionated Schedule (s) when applicable
Limited stage – volume eligible for concomitant chemo-thoracic radiotherapy	45 Gy/30 fractions BD, 50 Gy/25, 60 Gy/30	42 Gy/15 <sup>11</sup>
Limited stage –for sequential chemo- thoracic radiotherapy	45 Gy/30 fractions BD, 50 Gy/25, 60 Gy/30	42 Gy/15
Limited stage – for PCI	25 Gy/10	25 Gy/10

## 8.2 Palliative Radiotherapy

Bone		
	Standard Schedule (s)	Recommended Alternative Schedule (s)
Spinal cord Compression	20 Gy/5 , 30 Gy/10	8-10 Gy/1
Non Complicated bone metastasis	8 Gy/1	8 Gy/1
Complicated bone metastasis – post operative	30 Gy/10	20 Gy/5
Symptomatic primary tumour (including SVCO)	39-30 Gy/13-10, 20 Gy/5	17 Gy/2 (option 8 Gy/1)

## 8.3 Consolidation radiotherapy

Extensive Stage Small Cell Lung Cancer – extensive stage (large volume and/or any M1 stage)		
	Standard Schedule (s)	Recommended Alternative Schedule (s)
Consolidation PCI	25 Gy/10	25 Gy/10
Consolidation Thoracic Radiotherapy	30 Gy/10 , 54 Gy/36 ( BD)	30 Gy/10

## 9 Guidance development group

This guidance was developed in conjunction with St. Luke's Radiation Oncology Network.

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