Supportive Care of Lung Cancer Patients during COVID-19

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Faculty Disclosures

› Maria Ftanou, DPsych has no financial relationships to disclose.
› Michelle M. Turner, MS, CRNP has no financial relationships to disclose.
› Stephanie Wynne, BSc has no financial relationships to disclose.
› Sara McLaughlin-Barrett, NP has no financial relationships to disclose.
COVID-19

› First reported outbreak COVID-19 was in Wuhan, China-December 2019.
› WHO declared a public health emergency of international concern January 30, 2020. ¹
› Rapidly spreading, more than 56 million reported cases globally. ²
› Greater than 1.35 million deaths. ²
› Catastrophic effects on the world economy, healthcare systems and healthcare workers

1. World Health Organization (2020)
HEALTHCARE WORKERS

› Hospital beds at full capacity
› Limited ICU beds
› Burn out rate at ≥ 50% ³, ⁴
› Mental and physical exhaustion
› Ever evolving policy and procedure changes
› Additional emotional and psychological support for lung cancer patients

REFERENCES


New emotional challenges faced by Lung Cancer Patients during COVID-19

Maria Ftanou (AU)

Dr Maria Ftanou
Clinical Psychologist
Peter MacCallum Cancer Centre &
University of Melbourne
Doctorate of Psychology
Overview

1) Emotional impacts of COVID-19 on lung cancer patients

1) Strategies to support lung cancer patients through the pandemic
COVID-19 emotional impacts

COVID-19 is one of the greatest global public health crisis

Coronavirus Cases: **59,097,622**
Deaths: **1,395,595**
Recovered: **40,883,295**
Lung cancer & challenges to wellbeing

› Prognosis remains poor with approximately 15% of patients surviving five years post diagnosis
› Lung cancer is associated with more distress than other cancers
› Prevalence rates of depression and anxiety range 11% to 40%
› Greater symptom burden across the disease trajectory (e.g: fatigue, loss of appetite, shortness of breath, cough, pain)
› 95% of people with lung cancer experience stigma
Emotional impacts of COVID-19 on lung cancer patients

› Heightened perceived risk for poor outcomes and mortality
  o Frequent visits to hospital and receiving anticancer treatments with immunosuppressive properties might considerably increase the risk of being infected

› Fear of whether the healthcare-capacity issues will interfere with optimal treatment
  o Fear of shortage of drugs, reduced treatments and minimized face-to-face contact with treating teams

› Social isolation, disconnection from others, loneliness
  o Limited visits from friends and family, formal /informal caregivers
Emotional impacts of COVID-19 on lung cancer patients

- Very high prevalence of fear of disease progression, anxiety, and depression in cancer patients under the outbreak of COVID-19
- Increased feelings of guilt and being a burden on family and friends
- Patients are affected by unemployment, loss of income. Financial strain has been associated with decreased quality of life, maladaptive coping, and treatment nonadherence.
- Carers experience isolation due to reduced supports and increasing carer demands
- “Silver lining” experiencing appreciation for everyday things
Self-care strategies

Self-care is the **intentional** time taken on a **daily basis** to look after one’s self:

- Access to reliable sources of information
- Reduce COVID-19 media
- Exercise, Sleep, Nutrition
- Control the things you can control
- Relaxation techniques
- Pleasant activity scheduling
Social connections

Encourage patients to:

› Make contact with friends and loved ones
› Connection through internet, by phone or by other online means
› Contact with community, online and spiritual and other interest groups
› Contact to professional supports and helplines
Communication with healthcare providers

› Encourage connection with treating teams
› Provide accurate information about care and changes in care
› Provide information on treatment side-effects and how and when to access additional supports
› TeleHealth provides a flexible and reliable option for care
Cognitive Behaviour Therapy

- Overwhelmed
  - Withdraw
  - I can’t cope
    - I can’t do this
Mindfulness

Mindfulness means paying attention (*being aware*) in a particular way: on purpose, in the present moment, and non-judgmentally

*Jon Kabat-Zinn*

Group based educational intervention

- Awareness of thoughts, emotions and body sensations
- Mindful body scan, mindful stretches, mindful sitting practice
- Understanding stress
- Awareness of habitual thought patterns and emotional reactions
- Mindfulness in everyday life
Physically Supporting Lung Cancer Patients: Assessment and home-based rehabilitation via a virtual platform

Stephanie Wynne (UK)

Physiotherapist – Prehabilitation for thoracic surgery
Guy’s Hospital Cancer Centre
Guy’s and St Thomas’ NHS Foundation Trust
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Tel: +44 207 188 9654
Background

Guy’s Hospital (May 2020): new pilot prehabilitation service for patients undergoing surgery for lung cancer

Prehabilitation = ‘the practice of enhancing a patient’s functional capacity before surgery, with the aim of improving postoperative outcomes’\(^1\)

Strong evidence for prehabilitation before thoracic surgery

✓ Improved functional capacity\(^2\) and HR-QoL\(^5\)
✓ Shorter hospital stay\(^3,4\) with fewer complications\(^2,4\)
✓ Reduced hospital readmission\(^2\)

March 2020 – UK wide lockdown for COVID-19

Government shielding for cancer patients
Hospital policy: 2 weeks strict isolation prior to surgery

Aim: to provide safe and effective assessments, exercise programmes and symptom management via a virtual platform to patients within their homes
Access to technology

Considerations

› **Age**: highest incidence of lung cancer in 80-84 and 85-89 age group for females and males (UK data 2015-2017)⁶

› **Socioeconomic factors**: lung cancer incidences are 174% and 168% higher in the most deprived quintile compared with the least for females and males (England 2013-2017)⁷

**n=20 patients surveyed during our pilot**

› % female: 65
› average age: 68
› average PS: 1
› FEV1%: 88
› % >5 comorbidities: 45
Aims of our service

Macmillan Cancer Support Prehabilitation Guidance:
Patients should have access to physical activity, dietary and psychological support

To provide video or telephone-based assessment and management of these three key areas

Detect and mitigate the risk of physical deterioration during COVID-19
  › Deconditioning
  › Increased frailty
  › Increased smoking/ alcohol

Support the management of wider lung cancer related symptoms e.g.
  › Pain
  › Dyspnoea
  › Cough
  › Fatigue
Home-based assessments

Establish baseline function and symptoms
› Personalise intervention
› Monitor progress
› Establish onward referral needs

Identify precautions for unsupervised intervention
› Falls
› Pain or bone disease
› Past medical & drug history
› Exercise environment

Patient reported outcomes
› Postal Vs email link

The Royal Marsden Nutrition Screening Tool

Comprehensive medical and physical assessment

Godin Leisure-Time Exercise Questionnaire (GLTEQ)

Hospital Anxiety and Depression Scale (HADS)
Measuring physical function at home

Peak oxygen consumption (VO2peak)
› Gold standard for evaluating cardiorespiratory fitness and predictive of postoperative complications\(^3\)

Six minute walk test (6MWT)
› Measures functional capacity, no CPET equipment
› Predictive of postoperative complications and cancer survival in lung surgery\(^10\)

Unable to perform these tests within the home
› 6MWT – traditionally 20m track
› Lack of available space & supervision
› 30% have access to an app

Sit-to-stand (STS) and stepping tests have shown to be feasible, reliable, valid and responsive to exercise training\(^11\)

<table>
<thead>
<tr>
<th>STS</th>
<th>5 repetition</th>
<th>10 repetition</th>
<th>30 second</th>
<th>60 second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stepping</td>
<td>3 minute</td>
<td>6 minute</td>
<td>Incremental</td>
<td>✔</td>
</tr>
</tbody>
</table>

✔ Easy to visualise on camera
✔ Not all patients have stairs
✔ Quick
**Chosen Assessments**

**1 minute STS test**
- Patient completes as many STS as possible in one minute
- Assesses functional capacity and lower limb strength
- Responsive to exercise training (COPD) - MCID of +3<sup>12</sup>
- Modified BORG scale and leg fatigue pre and post-test

<table>
<thead>
<tr>
<th>Score</th>
<th>Level of exertion</th>
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<tbody>
<tr>
<td>0</td>
<td>No exertion at all</td>
</tr>
<tr>
<td>0.5</td>
<td>Very, very slight (just noticeable)</td>
</tr>
<tr>
<td>1</td>
<td>Very slight</td>
</tr>
<tr>
<td>2</td>
<td>Slight</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat severe</td>
</tr>
<tr>
<td>5</td>
<td>Severe</td>
</tr>
<tr>
<td>6</td>
<td>Very severe</td>
</tr>
<tr>
<td>7</td>
<td>Very, very severe (almost maximal)</td>
</tr>
<tr>
<td>8</td>
<td>Maximal</td>
</tr>
</tbody>
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**Global range of movement** – upper and lower limbs

**Balance component of short physical performance battery (SPPB)**
- Assesses balance in 3 different postures for 10 seconds
- Inform modifications to exercise programme where needed
- Able to complete with small static support and view over video

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Nogueira et al, 2019<sup>14</sup>

Williams, 2017<sup>13</sup>
Liu et al (2020)\textsuperscript{15} - unsupervised, home-based exercise training using minimal equipment led to improved functional capacity of patients with lung cancer before surgery.

### American College of Sports Medicine (ACSM) recommendations for cancer survivors\textsuperscript{16}

<table>
<thead>
<tr>
<th></th>
<th>Cardiovascular exercise</th>
<th>Strengthening</th>
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<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>150 minutes of moderate intensity physical activity per week</td>
<td>Strength training x 2 per week</td>
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<tr>
<td><strong>Intensity</strong></td>
<td>60-85% HR reserve, Modified BORG scale 4/10 ‘walk and talk’ level</td>
<td>60% of one repetition maximum, fatigue last 2 reps</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Gradually aim for 20-30 mins continuous aerobic exercise. Pacing for dyspnoea and fatigue</td>
<td>Build up to 2 sets of 8-15 reps</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>• Garden walking, stair climbing, static bike, STS, marching/jogging on the spot</td>
<td>• Major upper and lower limb muscle groups</td>
</tr>
<tr>
<td></td>
<td>• Signposting to online video resources</td>
<td>• Resistance bands or use of home equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Balance exercises near to supportive surface</td>
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Home-based intervention

**Increasing exercise motivation during isolation**
- Online exercise resources
- Weekly goal setting and follow-up
- Pedometers/ fitness tracking technology
- Diaries to record progress (paper Vs. online)

**Dietary needs**
- Screening for risk of malnutrition
- Dietitian referral & supplementation
- Weight monitoring at home

**Psychological support**
- Screening with HADS
- Onward referral to remote talking therapies
- Relaxation strategies & use of mindfulness apps

**Management of the holistic symptom burden of lung cancer**
- Written content (postal and email)
- Breathlessness management video in development
Key reflection: uptake

Data from n=20 patients with lung cancer consecutively referred for surgery

Aim to evaluate and refine our future practice

- n=7 assessed remotely (video n=4 or phone n=3)
- n=13 permitted face-to-face initial assessment then remote follow-up (pre-surgical isolation, location)

**Uptake rates to new prehab service: remote assessment = 64% Vs face-to-face = 100%**

**Reflection:**
More difficult to establish rapport remotely
‘Surprise call’ Vs expecting exercise assessment at hospital

**Key learning:** Collaborative multidisciplinary team approach required
Key reflection: feasibility

Delivering in-home physical assessment and rehabilitation appears to be feasible during COVID-19

Increased time requirement remotely - technology set-up and troubleshooting

Difficult to prescribe and teach exercise over the phone - ‘cautious approach’ may lead to suboptimal intervention

One patient (14%) was unable to complete assessment/intervention over the phone
  » Frequent falls, living alone, no video access

Patients with high risk therapy needs tend to have less access to technology: with email = 13% Vs without email = 87%

Key learning:
With ongoing COVID-19 restrictions we are developing a joint medical/AHP screening tool
High risk: assess and optimise via a face-to-face clinic then weekly remote follow-up (during pre-surgical isolation)
Low risk: access to remote support via a video educational seminar and exercise class
Key reflection: effects of remote intervention

3 core areas of prehabilitation
› Physical activity: GLTEQ and 1 min STS test
› Dietary needs: Royal Marsden Nutrition Screen
› Psychological wellbeing: HADS

GLTEQ, HADS and 1 min STS repeated via virtual ‘end of prehab’ assessment
› 1-2 days before thoracic surgery
› Average length of home-based intervention period = 26 days
› 18% and 15% of patients referred to dietitian and psychological support service

<table>
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<tr>
<th>Outcome Measure</th>
<th>Baseline</th>
<th>Change since baseline</th>
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<tr>
<td>Physical activity: GLTEQ</td>
<td>16</td>
<td>+46</td>
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<tr>
<td>Anxiety: HADS-A</td>
<td>5</td>
<td>-1</td>
</tr>
<tr>
<td>Depression: HADS-D</td>
<td>3</td>
<td>-1</td>
</tr>
<tr>
<td>Exercise capacity: 1 min-STS</td>
<td>24</td>
<td>+5</td>
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Home-based intervention during COVID-19 led to:
✓ Small reduction in anxiety and depression
✓ 100% of patients meeting recommended levels of physical activity
✓ Improvement in exercise capacity which exceeds the 1 min STS test MCID (+3)
Take home messages

› Patients with lung cancer are at risk of physical and psychological deterioration during COVID-19

› Home-based rehabilitation may play an essential role in mitigating and improving this risk

› A comprehensive assessment is required for safety and effective delivery of remote intervention

› Physical assessments and intervention delivered over telephone or video appear to be feasible and effective
  However, caution should be exercised in higher risk patients
  No ‘one size fits all’ approach

› Remote rehabilitation is unfamiliar to patients: a collaborative multidisciplinary and family/carer approach may improve uptake and engagement

› Further consideration of how best to optimise vulnerable patients with limited access to technology is required
With special thanks to...

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<thead>
<tr>
<th>Special Thanks to…</th>
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<tr>
<td>• Miss Stephanie Fraser – Associate</td>
<td>• South East London Cancer</td>
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<tr>
<td>Specialist in Thoracic Surgery</td>
<td>Alliance</td>
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<td>• Eleanor Hawley – Thoracic Nurse</td>
<td>• Guy’s Hospital Cancer</td>
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<tr>
<td>Practitioner</td>
<td>Physiotherapy Team</td>
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<td>• Nisa Cordeiro – Thoracic Nurse</td>
<td>• Guy’s Hospital Cancer</td>
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<tr>
<td>Practitioner</td>
<td>Occupational Therapy Team</td>
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<td>• Rujina Ali – Thoracic Admin</td>
<td>• Guy’s Hospital Nutrition &amp;</td>
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<td>Coordinator</td>
<td>Dietetics Team</td>
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<tr>
<td>• Nicola Peat – Clinical Specialist</td>
<td>• Dimbleby Cancer Care</td>
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<tr>
<td>Cancer Physiotherapist</td>
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<td>• Faye Dickinson – Specialist</td>
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<td>Physiotherapist</td>
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<td>• Pip Labuc – Specialist Occupational</td>
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<td>Therapist</td>
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<td>• Rachel Bracegirdle – Specialist</td>
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<td>Dietitian</td>
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<td>• Dr Cheng Ong – Consultant Anaesthetist</td>
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<td>• Samantha Tordesillas - Programme</td>
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<td>Manager for Personalised Cancer</td>
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<td>Care</td>
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References


Palliative Care for Lung Cancer Patients during COVID-19

Michelle M. Turner, MS, CRNP
Thoracic Oncology Nurse Practitioner Manager
Johns Hopkins Sidney Kimmel Cancer Center, Baltimore, MD - USA
What has stayed the same in lung cancer?

- This Year 228,820 Americans will be Diagnosed with Lung Cancer.
- Lung Cancer is the Leading Cause of Cancer Death in the U.S.
- Lung Cancer Claims More Lives Annually than either Colorectal, Pancreatic, Breast, or Prostate.
- Nearly 20 % of Men and Women Diagnosed with Lung Cancer Are Never Smokers
What has stayed the same in lung cancer continued...

FACT: LUNG CANCER IS RARELY DETECTED EARLY ON

Lung cancer accounts for 13% of all new cancer diagnoses, but 24% of cancer deaths.

Only 19% of all people diagnosed with lung cancer will survive 5 years or more, but if it is caught before it spreads, the chance for 5-year survival improves dramatically.

Lung cancer takes more lives annually in the U.S. than the next three most common cancers combined.

Lung cancer kills about 2.5 times as many men as prostate cancer.

Lung cancer kills about 1.5 times as many women as breast cancer.

March 15, 2019 – the day that changed medicine....
What has changed due to COVID-19?

- Clinical operations
- Personal protective equipment (PPE)
- Enhanced cleaning
- Staff distancing
- Provider distancing
- Visitor Policies
- De-coupling visits
Epidemiology of cancer patients and Coronavirus Infection

- 18 patients (1%) of total 1590 cases with COVID had hx of cancer vs general population (0.29%)
- Lung cancer (28%) most common type
- Higher incidence of complications among cancer patients (39% vs 8%)

* Small sample size and heterogeneity regarding disease duration course, origin and tx hx.

Liang et al. Lancet Oncology 2020:21:335-7
Challenges of Lung Cancer and COVID....

- Both present with similar symptoms
  - cough
  - shortness of breath
  - fatigue
  - chest discomfort
- These symptoms can also be seen post radiation treatment and as side effects from our oncology therapies

Liang et al. Lancet Oncology 2020:21:335-7
Palliative Care During a Pandemic

Isolation + Quarantine + Social Distancing

Psychological and Social needs
Barriers of providing palliative care occur at 3 levels....

- **Patient** – infection prevention and decreasing need of social isolation
- **Caregiver** – social distancing, lack of social support, job loss
- **Health System** – telemedicine services, health care worker exposure = isolation, allocating resources, provider burn out

Liang et al. Lancet Oncology 2020:21:335-7
Pandemic Plan for Palliative Care Preparedness – developed after the 2010 influenza pandemic

1. **Stuff** – build up reserve of medication, equipment, PPE
2. **Staff** – Anticipate decrease in manpower due to reallocation of staff
3. **Space** – Creation of space for EOLC – isolation wards with access to palliative care services
4. **System** – triaging system (palliative care services, home visits, telemedicine visits)
5. **Skills of Communication** – EOLC discussions challenging but more so during pandemic – smartphones for video calling
6. **Self** – physical and mental stress of healthcare providers - separation from family, seeing patients dying daily, fear of infection
References

- American Cancer Society Facts and Figures 2020, Atlanta
- Centers for Disease Control & Prevention Morbidity and Mortality Weekly Report