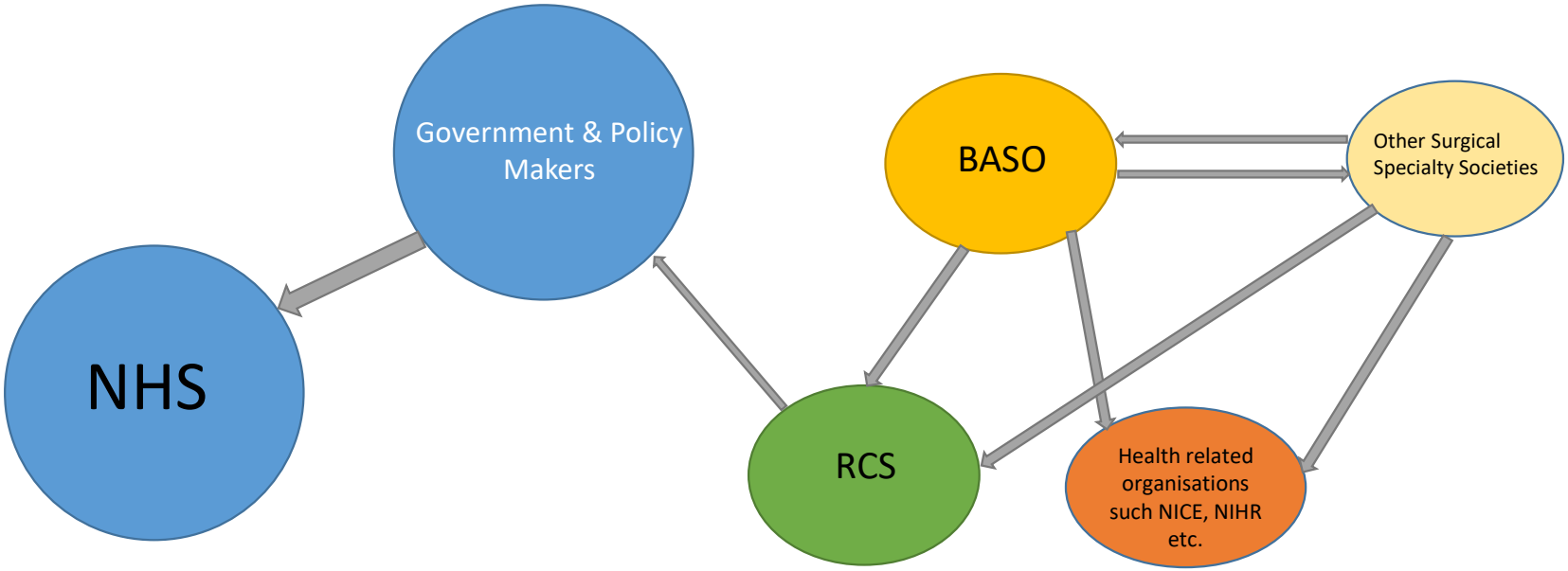
MD1

BASO' Role with NHS



- BASO Members work within the NHS, bar BASO overseas members and Medical Students.
- BASO is stakeholder with NICE & other health related health organisations and provides expert consultations on request.
- BASO maintains links with other Surgical Societies, both independently and via Cancer Services Committee (CSC).
- RCS relationship: BASO maintains historic relationship with the RCS and always had its base at the College. BASO Chairs the RCS's CSC as well as provides independent consultations/feedback when requested.

List of abbreviations:
NICE – The National Institute for Health and Care Excellence
NIHR – The National Institute for Health and Care Research
RCS – The Royal College of Surgeons of England

BASO~The Association for Cancer Surgery
at The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE
Telephone 020 7869 6854 Email admin@baso.org.uk
www.baso.org.uk

Date issued/Modified: 9th April 2020

BASO Guidance - Strategy for Cancer Surgery sustainability and recovery in the COVID 19 pandemic

The COVID-19 Pandemic has created unprecedented pressure on the healthcare system creating a need to conserve critical resources (e.g. ventilators, ICU beds) and to provide the PPE (Personal Protection Equipment) that is essential for protecting both patients and staff from intra-hospital transmission and unnecessary exposure.

In the COVID-19 Pandemic cancer patients are at an increased risk of contracting the viral infection both because of their underlying disease and the immunosuppression associated with the treatment they are receiving (e.g. surgery or chemotherapy). There is therefore a need to minimise the risk of cancer patients contracting the infection and of avoiding surgical complications whilst making best use of resources. This includes the protection of Health care workers involved in the delivery of their care.

This guidance intends to support front line clinicians, who are witnessing an increasing burden of COVID-19 patients, to continue providing essential cancer surgery. Cancer surgery treats life-threatening diseases, and where practicable, it should go ahead within the SAFE practice framework. This was highlighted in the "Advice on maintaining cancer treatment during the COVID-19 Response" document sent to NHS trusts on 30th March 2020 (Publications approval reference: 001559).

BASO has contributed to the NHS England document "Maintenance of Essential Cancer surgery for adults during the COVID-19 emergency". However as we have members in the devolved nations, as well as internationally, BASO has also provided a more detailed recommendation to all colleagues. The recommended BASO guidance should also be read in combination with the latest government advice regarding the practice of surgery (e.g. Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer 23/3/2020).

Cancer Services should continue to investigate, treat and deliver care to patients. There should be plans to identify ways of delivering appropriate care to cancer patients whilst balancing the resources for the coronavirus response. These plans should also include potential situations where cancer treatments may be compromised because of factors such as staff or supply shortages. It is vital that clinicians take the lead at times of cancer services disruption in order to prioritise treatment for those in most need, using best practice. These decisions should be taken with MDT involvement and clearly communicated to patients. It is important to maintain weekly MDT meetings; ideally these should be done remotely. If a face-to-face MDT is felt to be necessary, then aim to minimise the number of staff present at the MDT in person and have other members others joining remotely. Consider a quorate membership of 1 surgeon, 1 oncologist, 1 pathologist, 1 radiologist and one cancer care nurse.

Many tumour specific societies have provided guidance to their members on prioritising the treatment options in the current climate of the pandemic (see below). These should also be read in line with this document. Whilst most research has stopped, any initiatives that encourage quality improvement in the NHS and require data collection, observational, or potentially randomised interventional trials using innovative pragmatic governance and current technology, should be supported where practicable.

These are unprecedented times and we acknowledge the trauma the work force is facing and will be facing in the future. "Self-care" and "mental wellbeing" support is imperative. Cancer surgeons and the cancer team members have dedicated their careers to improving cancer outcomes and will now be making different types of difficult decisions. Ensuring that we seek help when needed and that we support our colleagues in distress will ensure our sustainability and ability to move into the system recovery phase.

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Phase 1: SAFE Surgery for Urgent Cancer Cases

1. Maintain capacity to under take SAFE surgery for urgent cancers at individual acute hospitals. This should include a system which allows surgeons to pool theatre capacity, lists, and surgical teams to deliver cancer surgery.

2. Decision making for surgery, resource consideration and process – team consisting of senior clinicians to help guide the management regarding clinical cancer; emergency surgery prioritisation and COVID-19 planning (e.g. Medical Director, Cancer Clinical lead (described in National guidance for cancer 23/3/20) and a clinical Director (e.g. surgeon, anaesthetist, intensivist etc). These individuals need to meet daily/more frequently to agree prioritisation of resources. This group will require operational support from management teams.

3. Cancer Clinical Lead – ideally they should have no clinical activity/on call; to coordinate processes around managing patient lists, helping decide priorities for theatre access and answering cancer related queries from management/others.

4. A triage system should be implemented to identify cancer patients who should have surgical intervention (balancing COVID risk and urgency from pathology perspective) and those who might be reasonably deferred during the COVID-19 outbreak.

   The "Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer" document dated 23/3/2020; has identified clinical priority scores for patients having systemic chemotherapy, as below. However these score can be adapted for cancer surgery:-

Table 1 Prioritising patients for systemic anticancer treatment

Priority level	Categorisation based on treatment intent and Risk: Benefit ratio of treatment
1	• Curative treatment with a high (>50%) chance of success • Adjuvant (or neo) therapy which adds at least 50% chance of cure to surgery or radiotherapy alone or treatment given at relapse
2	• Curative treatment with an intermediate (20% to 50%) chance of success • Adjuvant (or neo) therapy which adds 20 – 50% chance of cure to surgery or radiotherapy alone or treatment given at relapse
3	• Curative therapy of a low chance (10 – 20%) of success • Adjuvant (or neo) therapy which adds 10 – 20% chance of cure to surgery or radiotherapy alone or treatment given at relapse • Non-curative therapy with a high (>50%) chance of >1 year of life extension
4	• Curative therapy with a very low (0-10%) chance of success. • Adjuvant (or neo) therapy which adds a less than 10 chance of cure to surgery or radiotherapy alone or treatment given at relapse • Non-curative therapy with an intermediate (15-50%) chance of > 1 year life extension.
5	• Non-curative therapy with a high (>50%) chance of palliation / temporary tumour control but < 1 year life extension.
6	• Non-curative therapy with an intermediate (15-50%) chance of palliation or temporary tumour control and < 1 year life extension.

Table adapted from NHS England's Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer 23 March 2020 Version 2.

Cancer surgery on the whole falls into categories 1 and 2, but in special circumstances patients may be offered surgery for categories 3 and 4. In the current pandemic we do not recommend surgery for patients with a low chance of success or life prolongation.

Clinical priority can be scored as follows using the Categorisation of patients in the above document:

Table 2: Categorising patients for surgical cancer treatment

Priority level	Categorisation
1a	Emergency - operation needed within 24 hours to save life. **This should be undertaken on the acute site, as currently.**
1b	Urgent - operation needed with 72 hours. **This should be undertaken on the acute site, as currently.**
2	Elective surgery with the expectation of cure, prioritised to: Surgery within 4 weeks to save life or prevent progression of disease beyond operability. **This should be prioritized for phase 2 (below)**
3	Elective surgery can be delayed for 10-12 weeks with no predicted negative outcome. **This should be prioritized for recovery phase, depending on length of pandemic.**

Table adapted from NHS England's Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer 23 March 2020 Version 2.

Patient co-morbidity and frailty should be assessed and factored into the decision-making algorithm. Patients who are at highest risk of COVID related morbidity or mortality should ideally be managed at a "COVID-19 free" clean site (see below). All new data being published should be considered when making decisions, for example information being published is indicating a 20% mortality for patients who develop post-operative COVID-19 pneumonia.

Using this guidance could make triage and resource allocation simpler and objective. This facilitates a way of summarising the variables of clinical treatment priority and post-operative patient risk based on patient frailty, co-morbidity and risk of COVID-19 related adverse outcome. Upfront discussions on escalation of treatment plans and DNAR status in patients embarking on cancer surgery will need to be considered in many of our cancer sites.

5. There needs to be a consultant led and delivered service in order to reduce the number of people in theatres and thereby to decrease risk by aerosoling. This will also free up non-consultant staff to help deal with inpatients being treated for COVID-19 complications (in accordance with PHE letter dated 28 March 2020 on PPE - publication approval reference: 001559).

6. PPE is essential for reducing unnecessary exposure and protecting patients and staff from the intra-hospital transmission. Whilst use of this should follow PHE/national guidance, new evidence is continually emerging and national guideless are undergoing regular updates.

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Phase 2: Clean Sites ("COVID-19 free") for less urgent Cancer Cases (urgent and advanced cancers) where non-surgical options

1. The effects of the COVID-19 pandemic will be long lasting; there is a need to deliver a well-coordinated cancer service for the next 6 months and probably for some time after that. It is likely that there will be a continuing need for COVID-19 patients to occupy beds in wards and in operating theatres in hospitals which have A&E departments. Clean "COVID-19 free" sites therefore need to be identified as a priority.

2. Clean (i.e. COVID-19 free) sites should be identified for delivery of SAFE care for less urgent cancer cases where non-surgical options are not feasible. Cancer Alliances and Health Boards need to identify cold "clean" sites. Each of these should ideally be a hospital without an emergency department e.g. a private hospital or a regional hospital serving 5-6 hospitals in the vicinity with appropriate facilities (e.g. including high dependency, radiology) which can act as "clean" site for the region. There may also be the option of identifying a "clean" isolated site within a large acute hospital if other options are not possible. These "clean" sites can have a dual function as an oncology hub to deliver systemic chemotherapy.

3. Staffing - Ideally there is a need for a clean site to have patients and staff that are less likely to be exposed to the infection risk. COVID-19 screening of staff should be considered. It is important that the fight against COVID works hand in glove with the fight against cancer. We recommend that each service/hospital identify 1-2, an agreed number of surgeons, to provide a "hot block" of operating for these cancer lists over a 4-6 week cycle. They would be expected to deliver and provide clinical continuity of care. Senior trainees will be valuable in the delivery of patient care. This system should limit the resource constraints on the overall staffing requirements for each hospital. Similar workforce planning will need to be undertaken for other teams e.g. anaesthetic staff, Macmillan, AHP and CNS who are imperative in cancer patients' care. It may be possible to call on recently retired colleagues to support this effort.

4. Screening and testing will need to be carried out on all patients being admitted to a designated cold clean site. This should include a careful travel and contact history using a health questionnaire administered at point of entry. This should ideally be undertaken at the pre-operative assessment clinic. In addition, patients should self-isolate 1 week before admission.

5. Assessment for COVID-19 symptoms should be carried out on a daily basis for inpatients. Patients who develop symptoms should be swabbed and moved to cohort wards for suspected or confirmed cases. Contact tracing and isolation of COVID-19 patients or staff should be prioritised.

6. Environment - theatre and ward space needs disinfection as per national guidelines. Each clinical area should have appropriate PPE as per latest national guidelines. No visitors should be allowed into clean hospitals except essential carers.

7. A clinical assessment or triage system (See Phase 1 Para 4) should be instigated. The theatre lists should be managed centrally using the administrative support from the cancer alliances or health boards.

8. Post-operative major cancer surgery patients should be advised to follow shielding advice as they fall in this high-risk category.

9. Mitigate Risk for cancelled patients- it is essential that a risk assessment be performed on patients who have their surgery cancelled or re-scheduled. Holding treatments such as chemotherapy or loco-regional therapies should be considered wherever possible. The potential risk of progression needs to be clearly discussed with the patients and the option of early reassessment needs to be factored into the treatment plan – including giving high risk patients priority once 'business as usual' is resumed.

10. Patients need to be informed of the extra risk posed by COVID-19 as part of the informed consent process. This requires development of suitable literature.

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Phase 3: Cancer Surgery System Recovery

1. When the system returns to normal we need to identify good practice and innovations which have been introduced during the crisis (e.g. telemedicine for MDTs, follow up clinics, monitoring clinics etc).

2. Extra resources will be needed to cover diagnostic services, theatre and critical care capacity in order to allow delayed cancer treatments to be carried out without further unnecessary delay. Without this further funding there will be a greater secondary death rate because of delayed or cancelled cancer surgery. During this time new cancer cases will be presenting which will require diagnosis, investigation, assessment and treatment.

3. The key for system recovery depends on maintaining a healthy workforce (e.g. adequate PPE), bed and operative capacity.

Conclusions

The COVID-19 Pandemic has put immense strain on our healthcare system but has also led to innovation in a short period of time. It is important that surgery, as one of the few curative options for patients with solid organ tumours, is maintained throughout this crisis. The recommendations above may help commissioners with the system change that is required to respond to the current crisis.

Finally, please refer to the BASO website for updated information regarding COVID-19.

Document Issued on: 9th April 2020

Document Approved by: *BASO National Council*

Document is Endorsed and Supported by:

(AUGIS) Association of Upper Gastrointestinal Surgeon
(BAETS) British Association of Endocrine and Thyroid Surgeons
(BAHNO) British Association of Head and Neck Oncologists
(BGCS) British Gynaecological Cancer Society
(BOOS) British Orthopaedic Oncology Society
(BSG) British Sarcoma Group
(SCTS) Society for Cardiothoracic Society

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Speciality Association Guidelines/Statements:

UK

ABS
https://associationofbreastsurgery.org.uk/for-members/covid-19-resources/

ASGBI
https://www.asgbi.org.uk/

ACPGBI
https://www.acpgbi.org.uk/news/considerations-for-multidisciplinary-management-of-patients-with-colorectal-cancer-during-the-covid-19-pandemic/

https://www.acpgbi.org.uk/news/acpgbi-guidance-for-colorectal-surgeons-and-trainees-on-rising-to-the-challenges-of-covid-19-as-citizens-doctors-and-surgeons/

AUGIS
https://www.augis.org/wp-content/uploads/2020/03/Advice-for-Endoscopy-Teams-during-COVID-ver-2-3-published-17032020FINAL.pdf

https://www.augis.org/wp-content/uploads/2020/03/Surgical-Priority-in-Oesophageal-and-Gastric-Cancer.pdf

https://www.augis.org/wp-content/uploads/2020/03/Statement-from-AUGIS-re-Hepatobiliary-and-Pancreas-Cancer-Patients.pdf

BAHNO
https://www.bahno.org.uk/clinicians_area/default.aspx

BASO *
https://baso.org.uk/media/98159/covid_19_and_breast_cancer_march_2020.pdf

BGCS
https://www.bgcs.org.uk/covid-19/

BOA
https://www.boa.ac.uk/resources/statement-for-boa-members-on-trauma-and-orthopaedic-care-in-the-uk-during-coronavirus-pandemic.html

BAUS
https://www.baus.org.uk/about/coronavirus_covid-19.aspx

SBNS
https://www.sbns.org.uk/index.php/about-us/news/

SCTS
https://scts.org/guidance-for-surgical-support-during-covid-19/

International

Society of Surgical Oncology
https://www.surgonc.org/resources/covid-19-resources/

NHS England Guidance:
https://www.england.nhs.uk/coronavirus/

Other Guidance:
Macmillan
https://www.macmillan.org.uk/coronavirus

** BASO's recommendations (in consultation with Professor Jeffrey Tobias, Professor of Clinical Oncology, and Professor Bob Leonard, Professor of Medical Oncology) to be used in conjunction with the guidance already issued by Association of Breast Surgery (ABS) for the management of breast cancer patients during Covid-19.*

References:

1. Interim process and methods for developing rapid guidelines on COVID-19 https://www.nice.org.uk/process/pmg35/chapter/scoping
2. https://cleanhospitals.com/2020/03/18/clean-hospitals-coronavirus-statement/
3. https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-acute-treatment-cancer-23-march-2020.pdf
4. https://www.thelancet.com/action/showPdf?pii=S2468-2667%2820%2930060-8
5. https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-acute-treatment-cancer-23-march-2020.pdf
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10. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877728/T1_Recommended_PPE_for_healthcare_workers_by_secondary_care_clinical_context_poster.pdf

BASO~The Association for Cancer Surgery

at The Royal College of Surgeons of England
35-43 Lincoln's Inn Fields, London WC2A 3PE
Telephone 020 7869 6854 Email admin@baso.org.uk
www.baso.org.uk

25th March 2020

Pragmatic Management of Breast Cancer during COVID-19

During the COVID-19 crisis, difficult decisions are being taken about management of other diseases and even management of cancer is being altered. At such time, there can be a temptation to use unproven treatments, often without consultation with patients. Having considered the evidence, and keeping the length and quality of life as the prime outcomes that patients would care about, we have come up with some recommendations, in consultation with Professor Jeffrey Tobias, Professor of Clinical Oncology, and Professor Bob Leonard, Professor of Medical Oncology, to be used in conjunction with the guidance already issued by Association of Breast Surgery (ABS) for the management of breast cancer patients during Covid-19:

1. Discontinue all mammography screening. Patients diagnosed with only DCIS should be regarded low priority for surgery
2. Breast MRI should be avoided where possible in view of the known risk of increased interventions and hospital visits.
3. For patients suitable for breast conservation, and in patients who are considering mastectomy in order to avoid EBRT, intra-operative radiotherapy (TARGIT-IORT) could be considered where available. EBRT over 5 days could be considered as published evidence unfolds.
4. Neo-adjuvant chemotherapy should not be recommended unless tumours are inoperable AND ER negative
5. Delayed reconstruction should be offered as the first option with immediate implant reconstruction, only considered in selected patients, subject to local theatre capacity and low complication rate. Prolonged autologous reconstruction should not be offered.
6. When surgical capacity is compromised, primary systemic therapy for ER positive or HER2 positive cases, with surgery reserved only for triple negative cases may have to be resorted to.
7. The challenges of treating chemotherapy-related complications in coming months should be taken into consideration by multidisciplinary teams/ tumour boards whilst balancing the relative benefits from chemotherapy. Extending gene-expression analysis to include node positive patients may help in this regard. For safety with any chemotherapy, growth factors should be considered to minimise the risk of neutropenic sepsis. With rising incidence, adjuvant chemotherapy may need to be completely avoided or discontinued.
8. Patients should be encouraged to accept remote consultations, as much as possible. Encourage prospective cohort studies about remote consultations.
9. All follow ups (and follow up imaging) should be stopped unless patients have specific breast symptoms or are at high risk of relapse.
10. Genetic testing and risk-reducing surgery should be deferred for 3-6 months, unless it has direct immediate impact on management of known cancer.

We strongly support the current campaign to a) improve the availability of personal protective equipment (PPE) b) testing of all HCW c) potentially test patients for COVID 19 and d) try and abrogate the introduction of infection to hospitals by visitors.

With Best Wishes,

Michael Baum

Professor Jayant Vaidya
BASO~ACS Trustee

Professor Michael Douek
BASO Meeting Secretary

Professor Michael Baum
Past President, British Oncological Association and British Breast Group

Publications approval reference: 001559

Specialty guides for patient management during the coronavirus pandemic

Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer

23 March 2020 Version 2

"…and there are no more surgeons, urologists, orthopaedists, we are only doctors who suddenly become part of a single team to face this tsunami that has overwhelmed us…"
Dr Daniele Macchine, Bergamo, Italy. 9 March 2020

As doctors we all have general responsibilities in relation to coronavirus and for these we should seek and act on national and local guidelines. We also have a specific responsibility to ensure that essential cancer service care continues with the minimum burden on the NHS. We must engage with those planning our local response. We may also need to work outside our specific areas of training and expertise and the General Medical Council has already indicated its support for this in the exceptional circumstances we may face: www.gmc-uk.org/news/news-archive/how-we-will-continue-to-regulate-in-light-of-novel-coronavirus

Cancer services may not seem to be in the frontline with coronavirus but we do have a key role to play and this must be planned. In response to pressures on the NHS, the elective component of our work may be curtailed. However, cancer services will need to continue to deliver care. We should seek the best local solutions to continue the proper management of these cancer services while protecting resources for the response to coronavirus.

In addition, we need to consider the small possibility that the facility for cancer services may be compromised due to a combination of factors including staff sickness and supply chain shortages among others. This is an unlikely scenario but plans are needed.

The most vulnerable cancer patients

Some people with cancer are more at risk of becoming seriously ill if they contract the coronavirus infection:

- People with cancer who are undergoing active chemotherapy
- People having radical radiotherapy for lung cancer
- People with cancers of the blood or bone marrow such as leukaemia, lymphoma or myeloma who are at any stage of treatment
- People having immunotherapy or other continuing antibody treatments for cancer
- People having other targeted cancer treatments which can affect the immune system, such as protein kinase inhibitors or PARP inhibitors.
- People who have had bone marrow or stem cell transplants in the last 6 months, or who are still taking immunosuppression drugs.

In addition to immunosuppression, several factors/co-morbidities are likely to be linked with a poorer prognosis with coronavirus:

- age over 60
- pre-existing cardiovascular disease
- pre-existing respiratory disease.

The more of these individual factors a cancer patient has, the more likely they are to develop a serious illness with coronavirus especially if treated with systemic anti-cancer therapies.

Support for patients and their clinicians when making decisions about cancer treatment

The NHS action plan,[1] issued on 3 March 2020, makes clear that 'at all phases of a future pandemic, the NHS/HSCNI and local authorities have plans in place to ensure people receive the essential care and support services they need – and sometimes this might mean that other services are reduced temporarily'. It also states that as the disease moves into different phases 'the chief focus will be to provide essential services, helping those most at risk access the right treatment'.

Cancer patients will want to discuss with their clinicians whether the risks of beginning or continuing their cancer treatment could outweigh the benefits, given that many patients receiving systemic therapies in particular are more at risk of becoming seriously unwell if they contract the coronavirus infection. In the event of disruption to cancer services, clinicians may also need to prioritise treatment for those most in need. It is important that all

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869827/Coronavirus_action_plan_-_a_guide_to_what_you_can_expect_across_the_UK.pdf

decisions taken are done so with multidisciplinary team (MDT) input and clearly communicated with patients.

Categories of cancer services to consider

- **Leadership**
- **Surgical patients:** Continue to require admission and surgical management
- **Systemic anti-cancer treatments:** MDT decision-making should continue.
- **Radiation therapy**.
- **Proton beam therapy**

When planning your local response, please consider the following:

Leadership

- **A consultant must be designated as 'lead consultant'.** This duty can be for one day, a few days or even five days in small units. This is an essential role during crisis management. It cannot be performed by the consultant 'on-call'. They must be free of clinical duties and the role involves co-ordination of the whole service from emergency department (ED) through to liaison with other specialties and managers.
- It can be very stressful during a crisis. Support each other and share the workload. Do not expect the clinical director to do all the co-ordination!
- Make contingency plans for supply chain issues.

Surgical patients

Categorisation of patients

Priority level 1a
Emergency - operation needed within 24 hours to save life

Priority level 1b
Urgent - operation needed with 72 hours

Based on

Urgent / emergency surgery for life threatening conditions such as obstruction, bleeding and regional and / or localised infection permanent injury / clinical harm from progression of conditions such as spinal cord compression

Priority level 2
Elective surgery with the expectation of cure, prioritised according to:

- within 4 weeks to save life/progression of disease beyond operability based on

    - urgency of symptoms
    - complications such as local compressive symptoms
    - biological priority (expected growth rate) of individual cancers

Local complications may be temporarily controlled, for example with stents if surgery is deferred and /or interventional radiology

Priority level 3
Elective surgery can be delayed for 10-12 weeks will have no predicted negative outcome

General measures to consider

All complex cancer surgery will require level 1 support routinely. There is a small risk of postoperative complications requiring return / admission to ITU in (usually) the first week.

Separation of the location of emergency from elective operations within the same trust may allow elective work to continue at one site.

If appropriate, MDTs may consider non-surgical options, including prolongation of neoadjuvant treatment and non-surgical treatment if the outcomes are similar.

Systemic anti-cancer treatments

Treatment decisions will need to be made on a case-by-case basis with input from both patients and the MDT. The prioritisation details should be overseen by the nominated trust haemato-oncology leads at provider level.

General approach to prioritising patients on systemic anti-cancer therapy:

- Categorise patients by treatment intent and risk-benefit ratio associated with treatment.
- Consider alternative and less resource-intensive treatment regimes.
- Seek alternative methods to monitor and review patients receiving systemic therapies.

Clinicians will also need to consider the level of immunosuppression associated with an individual therapy and the condition itself, and patients' other risk factors.

Categorisation of patients

This will differ according to tumour type, but it is suggested that clinicians begin to categorise patients into priority groups 1-6. If services are disrupted, patients can be prioritised for treatment accordingly.

Priority level 1

- Curative therapy with a high (>50%) chance of success.
- Adjuvant (or neo) therapy which adds at least 50% chance of cure to surgery or radiotherapy alone or treatment given at relapse

Priority level 2

- Curative therapy with an intermediate (20- 50%) chance of success.
- Adjuvant (or neo) therapy which adds 20 – 50% chance of cure to surgery or radiotherapy alone or treatment given at relapse

Priority level 3

- Curative therapy of a low chance (10 – 20%) of success
- Adjuvant (or neo) therapy which adds 10 – 20% chance of cure to surgery or radiotherapy alone or treatment given at relapse
- Non-curative therapy with a high (>50%) chance of >1 year of life extension.

Priority level 4

- Curative therapy with a very low (0-10%) chance of success.
- Adjuvant (or neo) therapy which adds a less than 10 chance of cure to surgery or radiotherapy alone or treatment given at relapse
- Non-curative therapy with an intermediate (15-50%) chance of > 1 year life extension.

Priority level 5

- Non-curative therapy with a high (>50%) chance of palliation / temporary tumour control but < 1 year life extension.

Priority level 6

- Non-curative therapy with an intermediate (15-50%) chance of palliation or temporary tumour control and < 1 year life extension.

General measures to consider

Consider whether systemic therapies can be given in alternative regimens, different locations or via other modes of administration to minimise patient exposure and maximise resources.

1. Changing intravenous treatments to subcutaneous or oral if there are alternatives, subject to agreement with commissioners.
2. Selecting regimens that are shorter in duration.
3. Consider using 4-weekly or 6-weekly immunotherapy regimens rather than 2-weekly and 3-weekly.
4. Repeat prescriptions of oral medicines or other at home treatments should where possible be provided without patients needing to attend clinics in person.
5. Consider deferring supportive therapies such as densoumab and zoledronic acid treatments (except for hypercalcaemia).
6. Consider home delivery of oral medication where possible (but need to confirm the resilience of home care providers).
7. Use of GCSF as primary prophylaxis to protect patients and reduce admission rates.
8. Considering treatment breaks for long-term treatments when risk of coronavirus is high.
9. Consider what supportive services are required to deliver regimens safely.

Seek alternative methods to educate, monitor and review patients on systemic therapies. Identify alternative arrangements to minimise patient exposure. This could involve patients having blood tests locally or telephone/virtual appointments.

Radiation therapy

Categorisation of patients

Priority level 1

- Patients with category 1 (rapidly proliferating) tumours currently being treated with radical (chemo)radiotherapy with curative intent where there is little or no scope for compensation of gaps.
- Patients with category 1 tumours in whom combined External Beam Radiotherapy (EBRT) and subsequent brachytherapy is the management plan and the EBRT is already underway.
- Patients with category 1 tumours who have not yet started and in whom clinical need determines that treatment should start in line with current cancer waiting times.

Priority level 2

- Urgent palliative radiotherapy in patients with malignant spinal cord compression who have useful salvageable neurological function.

Priority level 3

- Radical radiotherapy for Category 2 (less aggressive) tumours where radiotherapy is the first definitive treatment.
- Post-operative radiotherapy where there is known residual disease following surgery in tumours with aggressive biology.

Priority level 4

- Palliative radiotherapy where alleviation of symptoms would reduce the burden on other healthcare services, such as haemoptysis.

Priority level 5

- Adjuvant radiotherapy where there has been compete resection of disease and there is a <20% risk of recurrence at 10 years, for example most ER positive breast cancer in patients receiving endocrine therapy.
- Radical radiotherapy for prostate cancer in patients receiving neo-adjuvant hormone therapy.

General measures to consider

In all cases, the most clinically appropriate hypofractionated schedule should be used, for example single 8Gy fraction for metastatic spinal cord compression (MSCC).

For adjuvant breast radiotherapy 26Gy in 5 fractions is isotoxic compared with 40.05Gy in 15 fractions and may mitigate a deferred start date in patients with node negative breast cancer.

Offer omission of adjuvant breast radiotherapy to those patients with low risk breast cancer who fulful the NICE Early Breast Cancer Guideline (2018) criteria.

Anaesthetic availability may be the determining factor for capacity for some radiotherapy including gynae brachytherapy, TBI and paediatrics.

Proton beam therapy

Particular considerations will apply for patients receiving proton beam therapy (PBT), which will be managed through the PBT commissioning route and clinicians at the Christie. Patients are prioritised considering both priority to access protons as a treatment and, if they can't be treated with protons, priority for receiving photon treatment (using Royal College of Radioloigists' categorisation and where they are in their treatment).

In some patients a short delay for treatment may be possible without compromising outcomes, so opting to treat with photons as an immediate alternative may not be the best choice.

In the event of significant PBT capacity issues, advising to have photons locally rather than travel for PBT is something that may need to be considered. The above consideration for radiation therapy would then apply through the treating centre.

General measures across all services to reduce patient contact and maximise workforce capacity

Minimise face-to-face appointments

- Offer consultations via telephone or video consultation wherever possible.
- Cut non-essential follow-up visits.
- Accelerate adoption of stratified follow-up models.
- Home delivery of oral systemic agents where suitable/available.

Reduce dwell time in services

- For those who do still need to attend, particularly for treatment, schedule appointments to reduce waiting times.
- Encourage patients not to arrive early – consider measures such as texting them when ready to see them so they can wait in their car.
- Follow broader Trust actions and protocols including testing and isolation of patients with COVID-19 symptoms.

If staff are required to self-isolate due to contact with a confirmed case of coronavirus, consider ways they can continue to provide care and/or support MDTs. For example:

- Virtual attendance at MDT meetings.
- Telephone or video consultations, especially follow-ups.
- Identifying vulnerable patients and making contact to discuss changes to care and treatment.
- Identifying patients suitable for remote monitoring/follow-up.
- Data entry (where remote access enabled).

Overall considerations

- We should avoid unproductive attendances at hospital.
- Senior decision-making at the first point of contact should reduce or even prevent the need for further attendances.
- A decrease in elective work will allow for a greater senior presence at the front door.
- Clinicians may need to work in unfamiliar environments or outside of their sub-specialist areas. They will need to be supported.
- No patient should be scheduled for surgery without discussion with a consultant.

- The longer hours will allow ED access and help reduce crowding in waiting rooms.
- The possibility of a seven-day service may need to be considered.
- Consider postponing long-term follow-up patients until the crisis has passed.
- Can a follow-up virtual clinic be developed with your facility?
- CT scanning and other imaging may be limited as radiology departments divert resources towards the coronavirus pandemic.

Publications approval reference: 001559

To:
All trusts

NHS England and NHS Improvement
Skipton House
80 London Road
London
SE1 6LH

30 November 2020

Dear colleagues,

Advice on maintaining cancer recovery

Thank you for all you are continuing to do to recover and protect cancer services for patients. From March to September this year, over one million people in England were referred urgently with suspected cancer, 90% of whom were seen within two weeks, and over 290,000 cancer treatments were carried out. This is testament to your leadership and teamwork.

Cancer remains a priority for the NHS and to support the delivery of Phase 3 plans, we are:

- making available additional funding over and above annual Cancer Alliance funding, including £4 million to lock in innovations developed during the pandemic
- sharing weekly and monthly data packs and analysis to enable targeting of local action
- running a national public awareness campaign encouraging the public to contact their GP if they are worried about a symptom that could be cancer.

To ensure that the recovery of cancer services continues through a ‘second wave’ of COVID-19, we are asking that you:

- **Maintain COVID-protected environments for cancer,** by:
  - **Ensuring clear escalation plans are in place**, with any redeployment of staff involved in cancer treatment and care considered only as a very last resort. Cancer Alliances should alert regions through the NIRB structures if any

decisions are made at a trust or local system level which affect whole groups of cancer patients.

- **Stepping back up cancer hubs for cancer surgery and, where possible, using hub arrangements to protect capacity for endoscopy.** Hubs should consolidate cancer surgery in a COVID-protected site and have centralised triage in place to prioritise patients based on clinical need (see Appendix 1).
- **Testing non-symptomatic staff** who are directly involved in the treatment and care of patients in cancer services on a twice weekly basis using lateral flow tests.
- **Regularly testing non-symptomatic patients attending chemotherapy and radiotherapy appointments**, as advised by their clinical team, ensuring access to rapid testing at point of care for any patient who has not already been tested or who has been unable to follow advice to isolate.
- **Maximising independent sector (IS) use locally to ensure capacity for cancer surgery**. Under the new IS framework, this may mean utilising IS capacity for non-cancer services so that NHS capacity is protected for cancer.

- **Maintain patient-centred focus,** by:
  - Ensuring there is no reduction or cessation of any cancer screening programmes, and that backlogs are cleared as a matter of urgency.
  - reopening any clinical trials in cancer that are still paused due to COVID-19
  - assigning an individual pathway navigator to each patient to guide them through referral, diagnosis and treatment, as set out in the Adapt and Adopt blueprint for cancer
  - ensuring appropriate 'safety netting' of patients where it has been necessary to postpone their treatment, and agreeing and clearly communicating any changes to patients. Record appropriate safety netting in the free text element of the weekly Patient Tracking List (PTL) submission.
- **Continue to deliver on the Long Term Plan commitments for cancer**, by:
  - continuing or resuming the delivery of Targeted Lung Health Check projects.
  - implementing at least one **Rapid Diagnostic Centre** (RDC) pathway for a challenged two-week wait pathway, and one for patients with non-specific symptoms.

- Extending Personalised Stratified Follow Up (PSFU) programmes beyond breast, prostate and colorectal to support patients following their treatment and to increase clinical capacity by releasing outpatient slots.

The recovery of cancer services is supported by the new Cancer Recovery Taskforce, bringing together patients, charities and Royal Colleges. The Taskforce will shortly publish the national recovery plan for cancer, setting out the detail of how our priorities will be met and reflecting the work that you have all presented in your local system plans.

As ever, thank you for your continued commitment and hard work.

Yours sincerely

Dame Cally Palmer
National Cancer Director

Professor Peter Johnson
National Clinical Director for Cancer

Appendix 1: Cancer hubs

As set out in March this year, hubs should incorporate the following features:

1. **A central triage point within a local cancer system**

   All cancer patients should be considered by their MDT.

   Any patients recommended for cancer surgery should be referred to a central, clinically-led triage point. This may be placed at a regional or local cancer system (Cancer Alliance) footprint level, depending on local circumstances.

   The triage system will: prioritise patients for surgery on the basis of clinical need, and the level of risk, both patient- and service-related; and match patients with appropriate surgical specialisms and capacity across the cancer system.

2. **Consolidation of cancer surgery on COVID-free sites**

   Where local circumstances permit, cancer surgery should be consolidated on a COVID-free site within the local system. This could include independent sector provision where this has been secured.

   This will require arrangements for COVID-19 testing for all potential admissions 48 hours before surgery.

   For any cancer patients found to be COVID-19 positive, clinicians will need to decide locally when that patient will be considered fit for surgery, and be considered alongside other urgent surgery within a hospital treating COVID-19 patients.

3. **Specialty guide for the management of non-coronavirus patients requiring acute treatment: Cancer**

   Advice has been published to support clinicians in treatment decision-making and prioritisation, and to inform conversations about treatment with patients:

   Management of non-coronavirus patients requiring acute treatment: Cancer

Appendix 2: Guidance documents

- NICE guidelines:
    - COVID-19 rapid guideline: delivery of systemic anticancer treatments (Updated 27 April)
    - COVID-19 rapid guideline: delivery of radiotherapy (28 March)
    - COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services (27 July).
- The following guides originally produced by NHS England and NHS Improvement have now moved to the NICE website at: https://www.nice.org.uk/covid-19/specialty-guides#cancer
    - Guidance for triaging patients with lower GI symptoms - using FIT to help determine which patients are at greatest risk of bowel cancer and should be referred for further testing, alleviating pressure on endoscopy services.
    - Management of non-coronavirus patients requiring acute treatment: Cancer. This guidance can still be used as necessary to support local decision making.
- Clinical guide to surgical prioritisation during the coronavirus pandemic (guidance from the Royal College of Surgeons).
- Updated Government advice for people who are clinically extremely vulnerable, including specific advice around locally tiered incident levels.

Academy of Medical Royal Colleges

NHS

Publications approval reference: 001559

Specialty guides for patient management during the coronavirus pandemic

Clinical guide for the management of essential cancer surgery for adults during the coronavirus pandemic

7 April 2020 Version 1

Background

Government and the NHS nationally have made it clear that cancer treatment should continue to be prioritised wherever possible during the response to the COVID-19 emergency.

On 23 March 2020, the NHS issued national guidance to support clinicians on treatment decision-making and prioritisation, and to inform conversations with patients on treatment plans:
https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-acute-treatment-cancer-23-march-2020.pdf

On 30 March 2020, national guidance recommended that urgent consideration should be given to consolidating cancer surgery in a COVID-free hub, with centralised triage to prioritise patients based on clinical need:
https://www.england.nhs.uk/coronavirus/publication/advice-to-trusts-on-maintaining-cancer-treatment-during-the-covid-19-response/

This supplementary guidance, which builds on the experience in China, Italy and London, supports cancer services on the prioritisation and management of essential cancer surgery

for adults during the COVID-19 emergency. It has been developed in collaboration with the Royal College of Surgeons of England and the British Association for Surgical Oncology.

Organisational planning

NHS England and NHS Improvement regions should take steps to ensure that sufficient capacity and pathway arrangements have been put in place to maintain access to surgical treatment for cancer patients who require this during the COVID-19 outbreak, in line with the guidance published on 30 March (see above).

It is recommended that the cancer senior responsible officer (SRO) for each region should:

- Confirm with trusts what capacity and pathway arrangements are in place to support the continuation of cancer surgery during the COVID-19 period. This assurance may also involve Cancer Alliances, ICSs and/or lead providers where 'hub' arrangements are already in development.
- Where it is considered that further resilience is, or is likely to be, required, the cancer SRO should task the relevant organising unit (Cancer Alliance, ICS or lead provider) to undertake a rapid assessment of need, in line with the guidance previously issued, and to develop a proposed solution. This step should involve trusts, specialised commissioners and local systems/CCGs.
- Where the solution uses independent sector capacity, the cancer SRO should ensure that cancer activity is part of local system planning to make optimum use of the available capacity.

Management of priority cancer patients for surgery

National guidance (23 March 2020) proposed a system of prioritisation for cancer patients requiring surgery:

- priority level 1a: emergency operation needed within 24 hours to save life
- priority level 1b: urgent operation needed with 72 hours
- priority level 2: elective surgery/treatment with the expectation of cure needed within four weeks to save life/stop progression, taking into account symptoms and potential complications from lack of treatment
- priority level 3: elective surgery can be delayed for 10 to 12 weeks and will have no predicted negative outcome.

To support local hubs to plan activity:

- Appendix 1 lists the conditions likely to covered by priorities 1a, 1b and 2. This is not intended to be an exhaustive list but may help with the estimation of treatment volumes.

- Appendix 2 gives an estimate of the breakdown of expected surgical activity once the prioritisation criteria are applied. Nationally, specialised commissioning is seeking to ensure appropriate coverage of rarer conditions across the emerging cancer hubs.

Emergency operations (priority level 1a/b) will normally be performed by emergency surgical services at whichever site the patient presents, although in some cases it may be possible to stabilise patients for transfer to specialist teams, ideally after rapid testing for COVID-19.

For emergency surgery where COVID-19 testing is impractical, patients should be assessed on the basis of their history, and chest imaging performed in all cases. A plain chest X-ray is the minimum requirement, but many patients will undergo CT scanning preoperatively, in which case the chest should be included.

Patients prioritised as level 2 require management that balances the risk from the cancer with the need for strict infection control to maximise safety. These patients should be prioritised for ‘clean sites’.

Wherever possible, operations will be deferred for patients prioritised as level 3, with arrangements in place with cancer care providers for review if their condition worsens and for tracking to ensure their treatment is prioritised as soon as capacity allows.

Maintaining essential cancer surgery will follow these principles:

- equitable treatment of patients with life-threatening cancer who need access to surgical and critical care capacity, in relation to COVID-19 patients
- in line with national guidelines, balancing the urgency of cancer surgery against the risks of the procedure, particularly the risk of complications and a requirement for intensive care support
- equity across local healthcare systems, with capacity maximised in dedicated NHS or independent sector hospitals to allocate patient activity based on the greatest prospects for cure
- safety of patients, especially with regard to infection control and access to critical care as required
- safety of staff undertaking surgery and other care.

Local cancer hubs – operational and management guidance

In establishing systems within local cancer hubs, it is recommended that local systems have regard to the following guidance:

(i) A central triage point within a local cancer system

1. All cancer patients should be discussed at their usual specialist MDT. Both surgical and non-surgical treatment should be considered. Surgical decisions should be based on the priorities described above.

2. Time-critical cancer surgery, for which there is no capacity within a trust, should be referred to a central, clinically led triage point. This may be placed at a regional, local cancer system (Cancer Alliance) or lead provider level, depending on local circumstances. Clinical prioritisation will be done by a group of senior clinicians from across the relevant cancer disciplines, with reference to the information from the specialist MDT.

3. The role of the triage system will be to prioritise patients for surgery on the basis of clinical need, and the level of risk, both patient and service-related, and to match patients with appropriate surgical specialisms and capacity across the cancer system.

4. A risk assessment must be performed by referring trusts, for patients who do not proceed to operation or whose surgery is rescheduled. Holding treatments such as systemic anti-cancer treatment or loco-regional therapies may be explored. The potential risk of progression needs to be clearly discussed with the patient and the option of early reassessment clarified in their treatment plan.

5. Where local capacity is insufficient to provide timely care, mechanisms should be in place to seek assistance from neighbouring or other systems, if patients are well enough to travel for treatment.

(ii) Consolidation of cancer surgery in ringfenced ‘clean’ facilities

1. Wherever local circumstances permit, cancer surgery should be consolidated on a ‘clean’, COVID-19 free site (or several sites) within the local system. This could include independent sector provision where this has been secured.

2. If fully COVID-19 free sites are not available, separate COVID-19 free facilities should be designated on a site, with dedicated access and admission processes as well as inpatient areas separate from those where COVID-19 patients are being treated.

3. Staffing for clean facilities will require a designated pool of anaesthetic and surgical consultants, who may need to work outside their employing trust. Appropriate governance arrangements will be required to support this, such as honorary contracts.

4. Staff who have recovered from proven or suspected COVID-19 infection must follow Public Health England guidance on return to work, ideally supported by PCR testing to confirm they are negative before returning. If possible, staff in clean facilities will be tested for immunity to COVID-19 by serology, when this becomes available.

5. Surgeons and anaesthetists will need to maximise use of theatre time, with consultant-delivered procedures and, where possible, dual-consultant operating to reduce theatre times and the number of people in theatres who may be exposed to aerosols.

6. Adequate supplies of personal protective equipment (PPE) will be required for staff working in the designated facilities, in accordance with current national guidelines. PPE is essential to avoid unnecessary exposure and to protect patients and staff from intra-hospital transmission. This will be required even where patients have tested COVID-19 negative.

7. Arrangements will need to be in place to test all potential admissions for COVID-19 at most 48 hours before surgery, with patients self-isolating for seven days before admission. Patients will need to consent to testing and self-isolation at the time of listing for surgery. Only patients who have no symptoms suggestive of COVID-19 infection, have been isolated for seven days and have a negative COVID-19 PCR test should be admitted to the designated facilities.

8. For any cancer patient with symptoms or who is found to be COVID-19 positive, clinicians will need to decide locally when that patient will be considered fit for surgery; they will be considered alongside other urgent surgery within a hospital treating COVID-19 patients.

9. Postoperative major cancer surgery patients should be advised to follow shielding advice, as they will then fall into the high risk category.

The national cancer team and national specialised commissioning team will work with regional offices and Cancer Alliances to monitor preparations across the country. They will offer more intensive support in areas where plans are not as advanced, where requested. As noted above, the national specialised commissioning team will work with hubs to ensure continuity of services in respect of rarer cancers for which there are a relatively small number of providers.

If you have any questions or you feel the national cancer team can provide any particular support, please do not hesitate to contact us at: england.cancerpolicy@nhs.net.

Appendix 1: Indicative list of conditions expected to fall within the remit of this guidance

Note: This list is neither exhaustive nor mandatory. Refer to the Surgical Specialty Association guidelines for more detailed recommendations to support MDT decision-making.

Tumour site	Within 1 month	Within 3 months
Breast	Breast cancer resection: ER negative/Her2+; pre-menopausal ER+ve with adverse biology	Breast cancer resection: pre-menopausal ER+ without adverse biology
Lower GI		Resection of colon cancer (if predicted aggressive biology) Resection of rectal cancer
Gynaecology	Suspected germ cell tumours Early stage cervical cancer Pelvic confined masses suspicious of ovarian cancer High grade/high risk uterine cancer Primary vulval tumours	
Thoracic	Resectable non-small cell lung cancers	
Bladder	Bladder cancer invading muscle Upper tract transitional cell cancer surgery Bladder cancer surgery – high risk carcinoma in situ	Bladder cancer surgery not invading muscle
Penile	Penile cancer surgery including inguinal node surgery	Penile cancer surgery: low grade and premalignant
Prostate		Prostate cancer surgery: high/ intermediate risk
Kidney	Renal carcinoma Partial nephrectomy on a single kidney	
Testicular	Testicular cancer non-metastatic	
Head and neck	EUA/biopsy for malignancy – hypopharynx; larynx Nasopharyngeal surgery for malignancy Oropharyngeal; tonsil; tongue cancer resection +/- reconstruction surgery for malignancy Treatment of small, high grade salivary cancers	Salivary gland tumours: Low grade Otological cancer surgery.

	Treatment of sinus cancers – threatening sight	
Oesophago-gastric	Oesophagogastric cancer causing obstruction	Oesophagogastric cancer surgery GI stromal tumour resection
Hepatobiliary/ pancreatic	Hepatobiliary/pancreatic cancer causing obstruction (biliary/bowel)	Hepato-pancreatico-biliary cancer surgery
Endocrine	Thyroid/parathyroid cancer surgery Adrenal cancer surgery	Thyroid cancer surgery: including diagnostic lobectomy Adrenal resections – intermediate masses: a) >4cm <6cm) with hypersecretion (cortisol/androgen) b) metastases – progressing on scan at 3/12
Brain/CNS	Brain tumour surgery (including gamma knife for metastases) Spinal tumour surgery	
Orthopaedics	Sarcoma surgery – any site Solitary metastasis – any site Destructive bone lesion surgery with risk of fracture (eg giant cell tumour)	
Paediatrics	Surgery for nephroblastoma, neuroblastoma, rhabdomyosarcoma	
Plastic surgery	Major soft tissue tumour resection (all sites) Skin cancer resection – all sites: melanoma; poorly differentiated cancers; nodal disease; compromise of vital structures, including the eye, nose and ear	Resection of head and neck skin cancer – moderately/well differentiated with no metastases

Appendix 2: Estimated breakdown of anticipated workload for level 2 procedures

These figures are indicative and derived from modelling in the Royal Marsden Partners Cancer Alliance.

Tumour site	%
Breast	25–30
Lower GI	15–20
Gynaecology	10–15
Thoracic	5–10
Bladder	5–10
Skin (mainly day case, local anaesthesia)	5–10
Kidney	3–5
Head and neck	3–5
Endocrine	2–3
Metastatic disease (spinal cord)	2–3
Brain	2–3
Sarcoma	2–3
Prostate	≤1
Testicular	≤1
Penile	≤1
Oesophago-gastric	≤1
Hepatobiliary/pancreatic	≤1

European Journal of Surgical Oncology 46 (2020) 1174–1175

Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com

Cancer surgery sustainability in the light of COVID-19 pandemic

Afsana Elanko[*, 1], Jim Khan, Zaed ZR. Hamady, Hassan Malik

COVID-19 Pandemic has caused unprecedented pressure on healthcare systems creating a need to conserve critical resources and to provide Personal Protection Equipment (PPE) that is essential for protecting patients/staff from intra-hospital transmission. As new evidence emerges guidelines should be updated.

Cancer patients are at increased risk of contracting the viral infection due to their underlying disease and immunosuppression associated with the treatment. We need to minimise risk of cancer patients contracting the coronavirus and avoiding surgical complications whilst making best use of resources.

There should be plans for cancer services to continue to investigate, treat and deliver care to patients within the SAFE practice framework [1], whilst balancing the resources for the coronavirus response [2]. Plans should include eventualities where cancer services are compromised (e.g. staff/supply shortages) and clinicians need to prioritise treatment using best evidence. Maintenance of weekly tumour board meetings (ideally remotely) is imperative, as decisions should be taken with their involvement and communicated with patients.

We acknowledge the trauma, the workforce is experiencing and the importance of "self-care" and "mental wellbeing".

Phased approach needs to be adaptable and reproducible in different healthcare systems:

1. Safe emergency/urgent Cancer Surgery
   a. Maintain capacity to undertake cancer surgery for urgent cases at acute hospitals (system should allow surgeons to pool theatre capacity/lists/surgical teams to deliver cancer surgery).
   b. Decision making, resource management and process:
      i. Cancer care, emergency surgery and COVID-19 planning need to be balanced. Agreed prioritisation of resources with operational support from management is required.
      ii. Cancer Clinical Lead to coordinate processes of managing patient lists, prioritising theatre access and answering cancer queries from management/others.
   c. Triage systems to be developed, to review cancer patients balancing COVID19 risk and urgency. During pandemic, surgery is not recommended for patients with low chance of success or life prolongation. Clinical priority can be scored as (see Table 1):
   d. Consultant delivered service to reduce the number of people in theatres and thereby reducing the risk of transmission.
2. Clean Sites ("COVID-19 free") for Cancer Cases (urgent/advanced) where non-surgical options do not exist:
   a. *"Clean site" ring-fenced* – Deliver well-coordinated cancer surgery through sites for immediate and medium term during the pandemic. These sites should be isolated from COVID-19 patient flow.
   b. *Locations* - Clean sites to be placed regionally to ensuring equality of cancer services.
   c. *Staffing* –COVID-19 screening of staff. Agreed number of staff members "ring-fenced" to work at these sites for infection control purposes.
   d. *Screening and testing* will need to be carried out on all patients being admitted to designated sites; including careful travel and contact history using a questionnaire administered at point of entry (e.g. pre-operative assessment clinic). Patients should self-isolate 1 week before admission. Assessment for COVID-19 symptoms carried out on daily basis for inpatients. Patients developing symptoms should be swabbed and moved to wards for suspected/confirmed cases.
   e. *Environment* - Theatre and ward space needs disinfection and appropriate PPE availability as per guidance.
   f. *Social isolation advice* - Post-operative major cancer surgery patients should follow advice as they fall in this high-risk category.
3. Cancer surgery system recovery
   a. *Prioritise cancer patients* that need surgery due to being "on-hold" during the COVI- 19 outbreak.
   b. *Extra resources* required covering diagnostic services, theatre and critical care capacity to allow delayed cancer treatments to be carried out without further delay. During this time new cancer cases will be presenting as per normal incidence.
   c. *Good practice and innovations* introduced during the crisis need to be maintained.
   d. Healthy workforce important for system recovery.
   e. *Research* should be commissioned looking at the robustness of systems for any future pandemics.

* Corresponding author.
E-mail address: drelanko@mail.com (A. Elanko).

[1] **Official:** BASO- association for Cancer Surgery, The Royal College of Surgeons of England, 35–43 Lincoln's Inn Fields, London, WC2A 3 PE.

https://doi.org/10.1016/j.ejso.2020.05.018

Table 1
Categorising patients for surgical cancer treatment.

Priority level	Categorisation
1a	Emergency - operation needed within 24 h to save life. **This should be undertaken on the acute site, as currently.**
1b	Urgent - operation needed with 72 h. **This should be undertaken on the acute site, as currently.**
2	Elective surgery with the expectation of cure, prioritized to: Surgery within 4 weeks to save life or prevent progression of disease beyond operability. **This should be prioritized for phase 2 (below)**
3	Elective surgery can be delayed for 10–12 weeks with no predicted negative outcome. **This should be prioritized for recovery phase, depending on length of pandemic.**

Table adapted from NHS England's Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer 23 March 2020 Version 2 [3]. Decision-making should factor in the patient's co-morbidity and frailty. Patients at highest risk of COVID related morbidity/mortality should ideally be managed at a "COVID-19 free" clean site (see below). All new data being published should be considered when making decisions (e.g. information being published is indicating 20% mortality for patients who develop post-operative COVID-19 pneumonia) [4].

Conclusions

COVID-19 Pandemic has put immense strain on healthcare systems across the globe, but has led to innovation. Surgery, as one of the few curative options for patients with solid organ tumours, needs maintenance. These recommendations may help clinical-leaders to instigate system change required for the pandemic.

Ethical approval for research

N.A.

External funding

No.

Declaration of competing interest

No.

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