



Provincial Health Services Authority

Provincial Cancer Clinical Management Guidelines in Pandemic Situation (COVID-19)

CURRENT VERSION AS OF April 14, 2020

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1.0 Introduction

The COVID-19 pandemic represents a potentially significant stress to current and future workflows and timely patient care within BC Cancer and health organizations delivering cancer care. During the COVID-19 pandemic, it is very likely that clinical care will need to be prioritized, deferred and reduced due to capacity issues from health care worker absence and decreased efficiency. This document is intended as a guidance document to provide recommendations for determining priority for consultation, assessment, and treatment of patients with cancer in the event that the COVID-19 outbreak disrupts access to health care resources.

These guidelines can be used in the event of an activation of an Emergency Management Plan in one or more regional cancer centres. This guideline can also serve as recommendations to the provincial community oncology network clinics and other health authorities delivering cancer care.

In addition to the clinical management guidelines outlined here, the BC Cancer staff will follow the guidelines sent out by PHSA, BC Cancer, Employee Wellness and Infection Control.

2.0 Preamble

It is recognized that there is a need to assess, manage and treat patients with cancer during this pandemic. Cancer is a life threatening disease and even if not immediately life threatening, if left untreated or if treatment is significantly delayed will result in suffering or shortening of survival.

Physicians, pharmacists, radiation therapists, physicists and oncology nurses and other health care providers are essential for the appropriate and safe delivery of cancer treatments.

BC Cancer has developed patient prioritization criteria based on need and potential benefit. When capacity is not able to meet care demands, a Cancer Centre will enact a Prioritization Phase (a component of an Emergency Management Plan) to ensure patients with indications that are of the highest priority will receive their care in an appropriate timeframe. All patients will continue to be monitored and put on waitlists regardless of their priority level. Where possible, a patient's care will be transferred to another centre with greater capacity. Different departments and tumour groups within a centre may also be affected disproportionately requiring flexibility of Prioritization Phase within a centre.

The decision to advance Prioritization Phase will be determined by Centre Leadership in conjunction with Provincial Program Leaders and BC Cancer Executive based on capacity and demand. BC Cancer Centres and Community Oncology Networks (CON) sites will be variably affected over time.

3.0 Assumptions

- Fundamental resources will be available (e.g. electricity, hardware and software infrastructure, water, safe and secure access to the physical plant) otherwise the provision of treatments will not be possible.

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- Every effort will be made to have a appropriate Personal Protective Equipment (PPE) that is required according to B.C. infection control guidelines available for staff.
- Every effort will be made to have a appropriate and ongoing education specific to the pandemic agent available to staff in a timely manner.
- Every effort will be made to have the a appropriate drugs and supplies available to treat patients. In the event of drug, equipment or supplies shortages, specific management algorithms will be referred to or created as needed.
- Health care providers have an ethical duty to provide care in a pandemic despite the elevated risk of morbidity and mortality associated with these duties. However, this duty is not without limit and institutions must provide protections and support to staff to deliver care in a manner that minimizes risks to their own personal safety. When an individual health care provider faces certain and significant harm to their person that duty may be discharged. For further details on this duty to care will be available shortly (when available, please refer to the 'Ethical Framework regarding Healthcare providers' duty to provide care during COVID 19')
- Staff may be required to complete tasks outside of their normal scope of responsibility, and attend to patients not usually in their care.

4.0 General Measures and Mitigation strategies

4.1. Advance care planning and code status:

Preliminary data from the early experience from China demonstrates a poor probability of survival in patients who require ventilation in the setting of severe illness from COVID-19 and a cancer diagnosis. Proactive discussions about patient wishes around advance care planning, end of life care and shared decision making around the value of cancer treatments and risks associated with treatment are an important part of routine cancer care and are more vital in a pandemic situation. These discussions should occur as early as possible.

4.2. Group meetings

Continuing education, workshops, conferences and rounds should be curtailed during the COVID-19 pandemic.

Tumour boards/conference/rounds/peer review that are directly related to patient care and management should continue if possible. Ideally all such meetings should be virtualized (e.g. teleconference, MOVI or Skype participation). If converting to virtual meetings is not possible, all efforts should be made to comply with infection control measures in place at the time of the event (e.g. social distancing, not attending with respiratory tract symptoms, using larger conference rooms if possible). During significant workload pressures radiation oncology peer review rounds should be prioritized to only most critical cases, and curtailed in extreme setting. In all circumstances radiation oncology peer review should be converted to peer-to-peer virtual reviews.

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4.3. ACU visits

In usual clinical practice, most clinical interactions involve face-to-face visits: initial consultation, patient review/on-treatment visits, follow-up, doctors and allied health visits on treatment, simulation, and treatment visits.

Waiting for follow-up appointments can have negative impacts, but vary with treatment intent and cancer site. Many follow-up appointments could be deferred for months without incident, particularly routine follow-ups in well patients without known evidence of disease. Assessments of the patient while undergoing treatment needs to be timely to be useful, but in some cases, can be minimised in frequency, e.g. only occur on an “as necessary” basis.

Many consultations, on-treatment visits, and follow-up appointments can be done by phone or virtually without a patient visit. Some patient appointments require an examination for optimal patient care and decision making. Some examinations have higher risks (i.e. potential for aerosol) than others: e.g. nasopharyngoscopy, vaginal examination, etc.). All direct face to face patient interactions and exams should be deferred if possible and converted to a phone or virtual visit. Higher risk examination may be even more important to defer than others, and/or may need extra infection protection processes (see high risk procedures section below), and should be discussed with infection control. In general, examinations should be deferred in patients known or suspected of COVID-19, but specific scenarios to use as a guide are described in appendix B.

4.4. Other treatment mitigation strategies to consider at any phase

Exactly how susceptible cancer patients are to infection with COVID19 has yet to be established. Patients with compromised immune systems are thought to be more vulnerable and the risk/benefit ratio of any treatment has shifted in the context of this pandemic.

- The longest possible cycle frequency schedules consistent with safe and effective use of systemic therapy should be used e.g. q 3-4 monthly LHRH analogues vs. q monthly.
- Selecting protocols that are shorter in duration.
- Using q4 or 6 weekly immunotherapy protocols rather than 2 or 4 week.
- Considering deferring supportive therapies such as zoledronic acid.
- Use of GSCF as primary prophylaxis to protect patients and reduce admission rates.
- Consider deferring or holding maintenance treatments for patients who have had a good response to therapy received to date.
- As much as possible use standard of care protocols and Preprinted Orders (PPO) and limit the use of Compassionate Access Program (CAP) approved exceptional treatments.
- Changing intravenous treatments to subcutaneous or oral if there are reasonable alternatives.
- More thoughtful consideration of risks and benefits in situations where evidence and benefits are less certain e.g. adjuvant chemotherapy for stage II colon cancer.
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- Use most efficient/parsimonious fractionation scheme and techniques with which the centre has experience for all patients starting a new course of radiation (e.g. hypofractionated breast and prostate regimens, and single fraction for bone metastasis).
- Where possible treat urgent cases during regular operating hours to maximize support from infection control.
- Where possible treat at risk or known COVID-19 positive patients on specific Linacs at end of day.
- Use electronic forms of RT ordering wherever possible.
- Minimize use of CT contrast for CT simulation in RT.
- Defer high risk exams such as nasopharyngoscopy as long as possible as appropriate for individual case.
- Avoid use of highly specialized techniques (e.g. Gammaknife, or Proton therapy) requiring out of province referral or referral outside region.
- In the exceptional circumstance where a known or suspected to be positive for COVID-19 is treated, use the most efficient/parsimonious fractionation scheme and simplest technique that is appropriate.
- Where wait lists develop or worsen due to capacity constraints, patients should be prioritized from wait list by the department head using the prioritization framework as a guide in addition to considering the amount of time a specific patient has already waited.
- In clinically appropriate circumstances, pharmacy and other health care providers may mail or courier medications and provide telephone counseling/ use other telehealth methods.
- When group family meetings related to patient care are required, whenever possible such meetings should be virtualized by telephone or telehealth/video.
- When interpreters are required for communication, whenever possible there use should be virtualized by telephone or telehealth/video.
- Oncologists and surgeons should be in dialogue in regards to surgical and other medical resources in the region and whether and how that should impact the timing of referrals.

For other RT specific considerations please refer to RT Program Sharepoint site: [RT Operational Considerations](#).

[For tumour group specific recommendations in the face of restricted access to care and constrained resources see:](#)

4.5. Laboratory, Pathology, and Ancillary medical services used in oncologic management

Many laboratory, pathology, and other medical services are used in decision making and management of cancer patients. All of these procedures, and in particular those with potential to create aerosols, have the potential to put patients and staff at risk during a pandemic, and physicians ordering such test and procedures should review the necessity and timeliness of the tests in relation to the patient's individual risk from cancer and from infection.

There may also be some limitations originating from other public and private health care facilities, as a result of their contingency planning or infection control issues. It is strongly encouraged that tests that can

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be delayed are done so, and that tests not critical to patient short term (i.e. next 6 months) management be deferred until the surge of the pandemic has diminished.

4.6. Clinical Trails

A significant proportion of BC Cancer patients are clinical trial participants. During a pandemic ensuring the safety of trial participants is paramount. The principles and strategies outlined in this document apply equally to clinical trial patients, however. See section 13.5 for further Clinical Trial details.

5.0 Ethical Guidelines and Principles in cases of restricted services

See Appendix A for additional considerations and framework.

5.1. Principles

- A goal will be to provide cancer services to the largest possible number of patients who are likely to benefit in a safe manner that minimizes risk of exposure to other patients, health care providers and flattens the curve of incident infections.
- Patients with indications for emergency access to assessment and treatment should be provided a high priority access to treatment where it is safe for staff and the patient to do so.
- Access to cancer services will be influenced by the likely benefit from treatment, and whether alternative treatment options are available.
- Patients on treatment should be prioritized but in circumstances where patients with high priority disease are unable to be accommodated, consideration should be given to discontinuing treatment for those patients who would be considered lower priority or for whom in the opinion of their treating oncologist, additional treatment may provide modest additional benefit.
- There is an underlying assumption that everyone who requires care will receive care and that there is a duty of non-abandonment. As such, during a pandemic all patients in clinical need will be supported and cared for; however not all patients will be able to receive certain therapies and instead have their needs supported in the medical, palliative and community health systems of care. In some settings patients may have their assessments and treatments deferred to a later date.
- 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 treatment 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 prioritize treatment for those most in need. It is important that all decisions taken are done so with multidisciplinary team (MDT) input and clearly communicated with patients.

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6.0 Prioritization Guidelines

Throughout a pandemic there will need to be greater clinical stringency and application of prioritization criteria. Importantly, the application of prioritization criteria will result in an adjusted and lowered standard of care from usual state and thus must only be enacted in relation to an accurate determination of the actual surge state of the system.

Patients should also be considered in terms of urgency of indication for treatment and assessment. The six levels of urgency can be used as a guideline to prioritize cases, but ideally individual cases should be triaged by the department head with input from treating physician on a case by case basis when possible. In general, curative treatments with high probability of success should be prioritized over other indications. Table 6.1 lists the priority phases that centres may need to restrict their services temporarily based on demand and capacity in situation where health care staff may be limited. Table 6.2 groups the common indications that are encountered into prioritization levels. These prioritization levels are used to triage patient waits and to group indications into prioritization phases. Indications not described below need to be assigned a level by the department head in collaboration with the relevant MRP. **The decision to advance Priority Phase will be determined by Centre Leadership based on capacity and demand and must be made in conjunction with Provincial Program Leaders and BC Cancer Executive before instituting any limitation in service.**

The process used to make these decisions should be informed, participatory, values-based, beneficial, systems-focused, reasonable, and transparent, as outlined in detail in Appendix A.

Criteria such as Age, Stage of Life, Mental Ability, Physical Ability and/or Disability per se should not be used in isolation as allocation criteria. The moral worth, value and dignity of all persons are equal regardless of these criteria. However, these criteria may be considered within the decision-making process when other **objective clinical features** such as **associated comorbidities** are likely to impact an individual's ability to survive their acute illness.

There may be circumstances when, all other criteria being equal, we prioritize a specific population, such as younger patients, *because* the allocation of the limited critical care resources will do the greatest good for the greatest number by saving the most healthy life years. The impact of the care provided will serve to save life or limb etc. and *not simply because* they are in this population group.

Communicating with Families When Normal Standard of Care is Withheld due to a Pandemic

Under any circumstances, patients and families being cared for in the health care context experience vulnerability and emotional and psychological stress. It is assumed that communication with families and patients in this setting is caring, compassionate and sensitive to the particular needs of these individuals.

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This need will be heightened if treatment choices are limited due to conditions of scarcity as patients may interpret withholding of treatment options as being abandoned. The responsibility on care teams for excellent communication in such situations is that much greater.

If treatments that would have been offered to patients in more normal times is being withheld from patients due to excessive demand caused by a pandemic, then communication with families should include the following three features:

- a. The fact that the resource is being withheld:
 - This is due to the COVID-19 pandemic
 - The criterion used to make allocation choices has been established and is used provincially
 - The criterion is the number of healthy life years that can most likely be preserved in the context of a robust ethical framework
 - The criteria being used do not make social judgments and that the value of every human life is seen as equal
- b. The care team is committed to serving the patient's needs and will use all available resources as appropriate to help meet the patient's goals of care – the patient and family are not being abandoned
- c. There is a process to dispute this if the family wishes

Every family is different and different members of a family may have different clinical understandings and values related to the patient's care. This information should be conveyed as sensitively as possible, based on the particular situation and needs of the family.

Because of the crucial role that physicians play literally and in the minds of patients and families, wherever possible it may be best that this information is shared by the physician. Although not ideal in normal circumstances, such communications may be in writing or over the phone/video link rather than in person.

Leadership should also consider setting the expectation proactively with patients and families that the system is operating under enormous constraint due to the COVID-19 pandemic. This step should be taken with care and in consultation with hospital communications experts.

6.1. Radiation and Systemic Therapy Specific Guidelines (see footnotes)

There are two main elements of prioritization: 1) centre specific restrictions in the types of patients that a centre will treat (Priority Phase) based on the relative benefit of various treatment indications during a period of crisis and inability to meet demand; and 2) reasonable delays for patients with specific indications within a priority level (i.e. Reasonable treatment delays in a period of crisis).

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This section outlines the former, i.e. the Priority Phases for treatment within a centre. The later, i.e. reasonable treatment delays within a priority level, are outlined in more detail in Appendix B for RT indications.

It is important to note that different centres may have to set different priority phases from other centres depending on availability of staff. Similarly, although the table below combines RT and Systemic priority levels for simplicity, it is possible that within a given centre RT and Systemic therapy may be operating in different priority phases at a particular time depending on availability of staff.

Centre Priority Phases for Systemic and Radiation Therapy

Phase	Prioritization Levels
0	No prioritization restrictions
1	Only patients in Levels 1-5 will be prioritized for treatment per time frame
2	Only patients in Levels 1-4 will be prioritized for treatment per time frame
3	Only patients in Levels 1-3 will be prioritized for treatment per time frame
4	Only patients in Levels 1-2 will be prioritized for treatment per time frame

Guidelines

“Target Treatment Start Within” † times listed below are meant as rough guide reflecting wait times for patients in particular priority groups that are in excess of usual wait times. These time lines will help inform decision making as to when a centre moves to the next centre priority phase.

Prioritization Level	Target Treatment Start Within†	External Beam Radiation*	IV Systemic Therapy
1	1 day	<ul style="list-style-type: none"> Emergencies: cord compressions, life threatening bleeding, circulatory or respiratory obstruction. 	<ul style="list-style-type: none"> Emergencies: chemosensitive malignancy causing or at high risk of organ function compromise (e.g. airway obstruction, spinal cord compression, bowel obstruction, severe debilitating symptoms, severe potentially reversible metabolic derangement)
2	14 days	<ul style="list-style-type: none"> Curative intent RT for: <ul style="list-style-type: none"> Squamous cell cancer of the Head & Neck, Cervix, 	<ul style="list-style-type: none"> Limited or extensive stage small cell carcinoma Curative intent treatment for

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		<p>Anus or Esophagus</p> <ul style="list-style-type: none"> ○ Aggressive and intermediate grade Lymphoma ○ Bladder cancer ○ Small cell cancers ○ Neoadjuvant RT for rectal cancer with a 5 day regimen ○ Pediatric cases <ul style="list-style-type: none"> • Palliative RT for intractable symptom from cancer in patient with >6 week life expectancy 	<p>germ cell cancers and lymphoma</p> <ul style="list-style-type: none"> • Neoadjuvant treatment where there is high likelihood of enabling surgical cure and high level evidence supporting that treatment (e.g. locally advanced breast cancer) • Patients eligible for dual modality treatment with curative intent (e.g. squamous cell cancer of the head & neck, cervix cancer, bladder, and lung cancer)
3	21 days	<ul style="list-style-type: none"> • Other curative-intent RT in whom there is clinical or radiographic evidence of gross tumour present that is not otherwise specified • Neoadjuvant RT for sarcoma, locally advanced breast and rectal cancer with a 25 day regimen • Adjuvant or prophylactic RT for indications associated with a survival benefit • Curative RT for good prognosis gliomas • Palliative RT for indications not otherwise specified in patient with >6 week life expectancy 	<ul style="list-style-type: none"> • Palliative therapy for patients who have moderate to severe symptoms • Patients being considered for adjuvant treatment where the absolute reduction in risk is ≥ 10%.
4	28 days	<ul style="list-style-type: none"> • Curative intent RT to the low and intermediate risk Prostate cancer or high risk localized prostate cancer responding to Androgen Deprivation. • Adjuvant RT indications that are not associated with a survival benefit (e.g. DCIS of the breast) • Benign CNS lesions (pituitary, meningioma (other than optic meningiomas) • Palliative RT for poor prognosis gliomas/glioblastomas • Prophylactic palliative RT for a symptomatic lesions • RT for low grade lymphoma 	<ul style="list-style-type: none"> • Palliative therapy for patients that have no or minimal symptoms • Patients being considered for adjuvant treatment where the absolute risk reduction is less than 10% but greater than 2%

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		<ul style="list-style-type: none"> • SABR for a symptomatic oligometastatic disease • Palliative RT for brain metastases in cases where there is a systemic options with potential CNS control • Non-melanoma skin cancer • Palliative RT for symptom from cancer that are currently reasonably controlled with other methods 	
5	>28 days	<ul style="list-style-type: none"> • Very Low risk prostate cancer • Adjuvant RT for low risk DCIS • Palliative RT near end of life (<6 weeks survival) • Non-threatening meningiomas • Patients in whom treatments other than radiation are options to replace or defer radiation (e.g. hormonal therapy in selective patients with prostate cancer or with low risk luminal A breast cancer or women over 70 years of age with low risk breast cancer). 	<ul style="list-style-type: none"> • Palliative therapy where there is minimal expected benefit from patient factors (e.g. those with poor performance status ≥ 3) and/or for whom the benefits of systemic therapy are minimal (e.g. response rate <10%, median PFS/OS benefits <2 months) • Patients being considered for adjuvant treatment with an absolute risk reduction of less than 2% (e.g. adjuvant bisphosphonates) • Patients who are on palliative intent therapy and have been on the same regimen for >6 months will be considered for treatment interruption or lengthening the interval between treatments
6	Not Applicable	<ul style="list-style-type: none"> • Elective non-malignant cases. • Heterotopic bone • Hyperplastic soft tissue lesions: peyronie's disease, Dupuytren's contracture) • Minimal risk acoustic neuromas, • Arteriovenous malformations 	<ul style="list-style-type: none"> • Not Applicable

*See appendix for special circumstances related to brachytherapy and systemic radiotherapy.

Further details on tumour group considerations for systemic and radiotherapy for internal use can be found at:

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6.2. Functional Imaging

Currently BC Cancer operates the only three publically funded PET/CT scanners in the province and is the only licensed producer of FDG. Scans are done in Vancouver and FDG is shipped daily Monday to Friday by ferry to the BC Cancer - Victoria PET/CT scanner. BC Cancer has discontinued sending patients to Bellingham for PET/CT scans.

There is no role for PET/CT in the management of COVID-19 infected patients. If additional CT resources were to be required however, the PET/CT scanners could be operated as CT scanners only, when not being used for PET imaging

The BC Cancer - Vancouver cyclotron facility is the sole producer of FDG for the province. Operations depend on a limited number of cyclotron operators and radiochemists. In order to minimize risks to key personnel, including clerical and administration staff, work from home measures have been implemented and will apply as much as possible. Remote reading for physicians will also be utilized as much as possible.

The use of PET in oncology is based upon tumour group approved evidence based indications. In the event of forced reduction in clinical capacity the plan would be to prioritize the most urgent cases needing PET/CT to plan potentially curative treatment and inpatient requests for approved indications. In general, indications for response assessment and non-oncologic indications would be given a lower priority.

Centre Specific Prioritization Phases for Functional Imaging

Phase	Prioritization Levels
0	No prioritization restrictions
1	Only patients in Levels 1-5 will be prioritized for treatment per time frame
2	Only patients in Levels 1-4 will be prioritized for treatment per time frame
3	Only patients in Levels 1-3 will be prioritized for treatment per time frame
4	Only patients in Levels 1-2 will be prioritized for treatment per time frame

Priority Levels	Disease States
1	<ul style="list-style-type: none"> - Cervical Cancer – staging locally advanced or restaging prior to salvage therapy - Esophageal Cancer – staging prior to CRT or surgery - Head and Neck Cancer - staging and restaging for potentially curable disease - Inpatient requests for approved indications - Lymphoma – staging Hodgkin and aggressive non-Hodgkin Lymphoma - Lymphoma – plan for duration of treatment in Hodgkin and aggressive non-Hodgkin Lymphoma

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	<ul style="list-style-type: none"> - Nonsmall cell lung cancer –preop or radical radiotherapy staging - Pediatric solid tumours –staging/restaging and assessment of treatment response - Small cell cancer –staging in presumed limited stage disease
2	<ul style="list-style-type: none"> - Anal cancer –staging and RT planning - Breast cancer –staging locally advanced or locally recurrent disease - Colorectal cancer –staging for potentially resectable recurrences - Endometrial cancer –staging and RT planning in high risk disease - Melanoma –staging or restaging prior to radical surgery - Ongoing clinical trials where PET is mandated by study protocol - Sarcoma –staging high grade disease - Vulvar –staging and RT planning for locally advanced disease
3	<ul style="list-style-type: none"> - Esophageal cancer –restaging prior to surgery - Lung – characterization of solid solitary pulmonary nodule <2 cm or ground glass lesion <4 cm - Prostate cancer –PSMA - Neuroendocrine –68Ga-DOTATOC - Thymoma/thymic carcinoma –staging/restaging prior to potentially curative treatment - Oligometastatic Disease –staging prior to consideration of SBRT
4	<ul style="list-style-type: none"> - Brain –evaluation of recurrent disease versus radionecrosis - Cholangiocarcinoma –adjunct to staging - Gastric cancer –adjunct to staging - Head and Neck cancer –evaluation of treatment response at 3 months - Lymphoma –evaluation of newly diagnosed solitary plasmacytoma to exclude multiple myeloma - Melanoma –evaluating response to treatment if result is likely to change therapeutic response - Myeloma –assessment of response in non-secretory or oligosecretory disease - Neuroendocrine –FDG PET if being considered for PRRT - Pancreatic cancer –adjunct to staging - Seminoma –adjunct to staging and restaging - Thyroid cancer –detection of suspected recurrence
5	<ul style="list-style-type: none"> - Anal cancer –evaluating response to treatment - Breast –Evaluation of response to therapy - Cervical cancer –evaluating response to treatment - GIST – Evaluation of response to treatment - Mesothelioma –staging prior to resection - Paraneoplastic Syndrome –searching for occult malignancy
6	<ul style="list-style-type: none"> - Evaluation for active cardiac sarcoidosis - Detection of seizure focus in patients with medically refractory epilepsy who are potential candidates for epilepsy surgery

Specific indications for a PET/CT not listed should be discussed with the Functional Imaging Program Lead and Physician ordering test to establish appropriate priority level.

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Requisitions will be triaged by PET/CT physicians as per normal upon receipt. Technologists and booking staff with guidance as needed by PET doctors of the day in Vancouver and Victoria, will book prioritized patients as per the phases and levels outlined above.

Patients whose scans are delayed by this prioritization process will be wait-listed and rebooked in priority based on date received and how they were initially triaged. PET physicians and department heads in Vancouver and Victoria will be available to discuss individual cases with referring physicians as needed.

Scanning Patients with Known COVID-19 Infection

Current infection control recommendations for cleaning rooms and equipment after a patient with COVID-19 is the similar to cleaning the room after a patient with TB requiring airborne precautions.

The settle time varies from site to site and room to room, depends somewhat on the air exchanges in the room - 90 minutes is usually maximum amount of time.

Regular hospital-grade cleaning solutions are effective in cleaning for COVID.

6.3. Pain and Symptom Management, psychiatry and Counselling (PSMPC)

General principles

- As always, all BC Cancer clinical staff will have to contribute to pain and symptom management and palliative care support for patients and their families.
- Family physicians and other community supports will have to play an even bigger role in supporting our patients with palliative care needs.
- An excellent COVID-19-specific resource to guide pain and symptom management during this time can be found here: <https://www.capc.org/toolkits/covid-19-response-resources/>. For regular PSMPC patient needs, please go to the CPAC guidelines <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/palliative-care-approach>.
- We have small PSMPC services that may be cut to 50% or even 0% at some centres with only one or two staff members absent. BC Cancer - Vancouver is the only site with a MOCAP-funded 24/7 on-call contract and oncologists can call from any centre.
- The vast majority of PSMPC services are now being delivered by virtual health or by phone.
- Some situations that would usually result in a full consult may have to be addressed through advice to other clinicians over the phone

Prioritization Level	Treatment Required Within	PSMPC
1	1 day	<ul style="list-style-type: none"> • Patients requiring immediate expert PSMPC according to clinical judgment of treating physician • Patients with significant risk for harm to self or others related to physical symptoms • ESAS score of 9 or 10 for Pain, Nausea, or Shortness of breath despite standard measures • ESAS score > 7 for Pain, Nausea, or Shortness of breath despite standard measures and other forms of significant distress magnifying impact on patient, clinicians, or Centre operations

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2	7 days	<ul style="list-style-type: none"> • Patients requiring semi-urgent expert PSMPC according to clinical judgment of treating physician/failure of trials of standard treatment • ESAS score > 7 for Pain, Nausea, or Shortness of breath despite standard measures • ESAS score 4 to 6 for Pain, Nausea, or Shortness of breath despite standard measures and other forms of significant distress magnifying impact on patient, clinicians, or Centre operations • Patients who have difficulty with fatigue or appetite despite standard measures that is likely to lead to serious decompensation if not addressed quickly
3	14 days	<ul style="list-style-type: none"> • ESAS score 4 to 6 for Pain, Nausea, or Shortness of breath despite standard measures • ESAS score < 4 for Pain, Nausea, or Shortness of breath with standard measures, but other forms of significant distress magnifying impact on patient, clinicians, or Centre operations • Patients who have difficulty with fatigue or appetite despite standard measures that will predictably lead to serious decompensation if not addressed
4	28 days	<ul style="list-style-type: none"> • ESAS score < 4 for Pain, Nausea, or Shortness of breath with standard measures and no other significant distress, but treating physician believes PSMPC consult required
5	>28 days	<ul style="list-style-type: none"> • Any other patient who the treating physician believes would benefit from a PSMPC consult
6	>28 days	<ul style="list-style-type: none"> • Patients whose symptoms are well-controlled by other clinicians but who are nonetheless requesting extra assessment

6.4. Psycho-oncology/Mental Health

General principles

- All BC Cancer staff will have to contribute to mental health care during this time as all patients will be anxious.
- All BC Cancer staff will have to do what they can to maintain their own mental health in order to be able to continue serving patients.
- We have small mental health/psychiatry/social work/counseling/spiritual care services that may be cut to 50% or even 0% at some centres with only one staff member absent.
- Many mental health and social work services can be delivered by virtual health or by phone and some psycho-oncology staff will be working from home.
- Some situations that would usually result in a full consult may have to be addressed through advice to other clinicians over the phone.

Prioritization Level	Treatment Required Within	Psychiatry/Patient & Family Counseling
1	1 day	<ul style="list-style-type: none"> • Active suicidal ideation with imminent risk to self (few protective factors) • Active homicidal ideation with imminent risk to other (few protective factors)

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		<ul style="list-style-type: none"> • Aggression/Violence significantly influenced by a mental illness • Uncontrolled hyperactive delirium creating significant behavioural disturbance on inpatient unit • Uncontrolled psychosis causing significant behavioural disturbance or other safety concern • Uncontrolled alcohol withdrawal on inpatient unit • Imminent risk to safety related to housing, neglect, domestic violence, nutrition, finances, or inability to seek medical help or secure other necessities of life • Mental health comorbidity preventing emergent medical treatment / need for expert capacity assessment
2	7 days	<ul style="list-style-type: none"> • New active suicidal ideation without imminent risk to self (some protective factors) • New homicidal ideation without imminent risk to other (some protective factors) • Delirium requiring expert advice despite trials at management • Uncontrolled psychosis without significant behavioural disturbance • Mania without psychosis • Predictable risk to safety related to housing, neglect, domestic violence, nutrition, finances, or inability to seek medical help or secure other necessities of life • Patients who work in essential services who might reasonably return to work with help with mental health or practical concerns • Mental health comorbidity preventing necessary medical treatment / need for expert capacity assessment • Personality disorder disrupting care of other patients/function of the Centre/mental health of staff • Factitious disorder or malingering disrupting care of other patients/function of the Centre/mental health of staff
3	14 days	<ul style="list-style-type: none"> • Worsening chronic suicidal ideation without imminent risk (longstanding protective factors remain) • Worsening chronic homicidal ideation (longstanding protective factors remain) • Illness Anxiety Disorder, OCD, or Panic Disorder that has become completely debilitating or is causing suicidal ideation in the context of COVID-19 • Gradually worsening health or overall state due to challenges with housing, neglect, domestic violence, nutrition, finances, transportation, or inability to seek medical help or other necessities • Patients whose mental health or practical concerns are directly related to having COVID-19
4	28 days	<ul style="list-style-type: none"> • Worsening anxiety or depression without significant change in any chronic suicidal ideation • Practical help related housing, nutrition, finances, transportation

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		that will significantly improve course of life/treatment if addressed
5	>28 days	<ul style="list-style-type: none"> • Follow-up for patients with no underlying mental health comorbidity and no risk for harm to self or others, but who are coping poorly under the circumstances • Follow-up for patients who have no underlying mental health comorbidity or imminent safety concerns, but who are socially isolated • Help with housing, finances, transportation, etc. that has no urgent time pressure
6	>28 days	• “Worried well” –high functioning patients who are experiencing some anxiety in the context of COVID-19 and cancer, but continue to function better than most

Centre Priority Phases for Mental Health Care

Phase	Prioritization Levels
0	No prioritization restrictions
1	Only patients in Levels 1-5 will be prioritized for treatment per time frame
2	Only patients in Levels 1-4 will be prioritized for treatment per time frame
3	Only patients in Levels 1-3 will be prioritized for treatment per time frame
4	Only patients in Levels 1-2 will be prioritized for treatment per time frame

6.5. Nutrition

General principles:

- All BC Cancer staff will have to contribute to identifying patients at risk of malnutrition versus those who have informational needs around nutrition and cancer
- All BC Cancer staff will have to do what they can to maintain their own mental health in order to be able to continue serving patients
- We have small teams of Registered Dietitians (RDs) that may be cut to 50% or even 0% at some centres with only one staff member absent
- Many oncology nutrition services can be delivered by virtual health or by phone and some on staff will be working from home
- Some situations that would usually result in a full consult may have to be addressed through advice to other clinicians over the phone

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Prioritization Level	Treatment Required Within	Nutrition
1	1 day	<ul style="list-style-type: none"> Urgent tube feeding and refeeding risk assessment to determine need to admit to hospital versus remain in community for management
2	7 days	<ul style="list-style-type: none"> Curative-intent treatment with progressive weight loss and nutrition impact symptoms Enteral feeding-related nutrition impact symptoms Partial bowel obstruction Weight loss: <ul style="list-style-type: none"> >2% in 1 week >5% in 1 month >7.5% in 3 months >10% in 6 months
3	14 days	<ul style="list-style-type: none"> Palliative-intent treatment with progressive weight loss and nutrition impact symptoms Post curative-intent treatment with progressive weight loss and nutrition impact symptoms Staff referrals not meeting the above criteria BMI \leq 18.5 in adults under 65 years BMI < 22 in adults over 65 years Community/home health RD referrals
4	28 days	<ul style="list-style-type: none"> Nutrition Screening Tool (NST) score 3
5	>28 days	<ul style="list-style-type: none"> HealthLinkBC referrals
6	>28 days	<ul style="list-style-type: none"> General nutrition question

Centre Priority Phases for Mental Health Care

Phase	Prioritization Levels
0	No prioritization restrictions
1	Only patients in Levels 1-5 will be prioritized for treatment per time frame
2	Only patients in Levels 1-4 will be prioritized for treatment per time frame
3	Only patients in Levels 1-3 will be prioritized for treatment per time frame
4	Only patients in Levels 1-2 will be prioritized for treatment per time frame

6.6. Surgical Services

Presently, most cancer surgery is performed at hospitals in British Columbia not directly under the auspices of BC Cancer. As such, each institution must balance the needs of their urgent elective surgery patients (including cancer patients), emergency surgery patients and the ventilatory needs of critical care patients in hospital, including COVID-19 infected patients.

While the current pandemic has stretched resources, hospitals across British Columbia have protocols in

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place to manage and triage patient care. Under these provisions, cancer surgery patients are among the last patients to be delayed or postponed. Short of an extreme scenario where most hospital ventilators are commandeered to manage critically ill patients, surgeons will strive to meet target times for cancer patients' surgery.

Once a hospital reaches a critical mass of ventilated patients, virtually all elective, and most semi-urgent surgery will be postponed. Under these circumstances, BC Cancer recommends regional coordination between institutions and surgeons to redistribute cancer related procedures and minimize the wait to surgery for cancer patients. It is clear that delay to surgery could lead to the need for emergency surgery (e.g. bowel obstruction, spinal cord impingement) or compromise of the patient's long-term cancer free survival. Prioritization should be on the case by case basis, where institutional clinicians will triage cases to minimize the risk of delay. Furthermore, BC Cancer recommends early multidisciplinary discussion (medical, radiation, surgical) to tailor multimodal therapy and mitigate the risk of tumour progression under circumstances of limited access to surgical resources.

While in hospital recovering from surgery, cancer patients should be considered immunocompromised and at high risk of severe consequences with COVID-19 infection. Appropriate precautions are recommended. Discharge from hospital as early as possible is encouraged.

Finally, in cancer patients who have suspected infection with COVID-19, urgent confirmatory testing and prioritization of cancer surgery after appropriate treatment/isolation and infection resolution is recommended.

6.7. Hereditary Cancer Program (HCP)

The Hereditary Cancer Program will be prioritizing appointments for patients referred for an urgent indication (e.g. results of genetic testing required for immediate medical management decisions, patients with advanced disease). All non-urgent referrals will continue to be received, reviewed and held for booking once full service is reinstated. Appointments to disclose genetic test results to patients who have testing in process (or who have it initiated prospectively through the oncology clinics via established procedures) will be maintained. Please contact the HCP team with questions regarding urgency or for telephone support.

6.8. Diagnostic Imaging

British Columbia Medical Imaging departments are rapidly implementing a disaster response plan to address the Covid-19 pandemic, with "phases" built along similar lines to the Provincial Surgical Plan.

As of March 22, 2020, B.C. Hospitals are all in either Phase 2 or Phase 3 readiness, as such Phase 1 is not listed. Phases 2 and 3 goals and processes are as follows:

Phase 2: Goal is to decant hospitals to free up space/resources & reduce COVID-19 transmission.

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Process: Postpone all non-urgent, non-emergent outpatient imaging studies.

Phase 3: Goal is to focus resources exclusively on emergent / urgent patients.

Process: Accept only the most urgent / emergent cases for imaging.

All incoming radiology requisitions will be triaged according to criteria below. BC Cancer regional centre dyad leaders will work with local diagnostic imaging groups to decide where triaging is performed. For example, BC Cancer - Vancouver is coordinating the triaging process with our oncologists and asking them to do the triaging. Other centres may elect to leave this task to the radiology department that receives the requisition.

Guidelines for triaging have been developed for B.C. Community Hospitals; the following BC Cancer-specific guidelines are intended as an adjunct to those already published / distributed. Cases triaged into triage Stage A and B will be immediately put on hold for at least 4 weeks.

The BC Cancer Triage Criteria:

Stage	Example
Stage A: Exam can be postponed at least 8 weeks or until the pandemic response is over – No risk or Minor Risk to patient if postponed.	<p>Screening tests (e.g. breast, lung, including high risk/hereditary cancer screening).</p> <p>Low risk finding follow up : (e.g. CT follow up suspected alveolar carcinoma in situ (BAC, lung))</p> <p>Low risk post treatment surveillance (e.g. Thyroid Ca, NED post treatment low thyroglobulin; Sarcoma post-treatment, NED, surveillance)</p> <p>Treatment planning (RT/ ST / SURGERY) for slow-growing benign tumors: (i.e. RT priority level 6: acoustic neuroma, meningioma)</p> <p>Investigation of a benign, incidental finding (e.g. small inguinal hernia).</p>
Stage B: Exam can be postponed at least 4-5 weeks; mild risk to patient if postponed.	<p>Post-treatment surveillance of low/mild risk of recurrence. (e.g. aggressive tumor with positive surgical margins)</p> <p>Treatment planning (RT/ST/SURGERY) for slowly growing malignant tumors (e.g. RT and ST Priority Level 4 to 5)</p> <p>Active disease and investigation of low risk new clinical finding. (e.g. thyroid cancer post RAI new subcentimeter left suprasternal)</p>
Stage C: Exam can be postponed no more than 2-3 weeks: Moderate risk to patient if postponed.	<p>Semi-urgent pre-treatment planning (RT/ ST / SURGERY), i.e. RT and ST priority Level 2 to 3. (e.g. Lung Ca w/ hx of rapid progression)</p> <p>Staging / restaging tumors w/ suspected moderate tumor growth rate.</p>

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	<p>(e.g. suspected Cancer recurrence w/ mild-moderate symptoms) Active disease - on treatment decision making. (e.g. imaging assessment for patient on chemo, clinically responding) Active disease - investigation of new moderate risk clinical findings. (e.g. on treatment, disease moderately progressing clinically)</p>
<p>Stage D: Exam must be performed at highest priority in specified time frame (e.g. 24 hours); Severe risk to patient if postponed.</p>	<p>Urgent pre-treatment planning (RT / ST / SURGERY), i.e. RT and ST Priority Level 1. (e.g. progressive neurologic deficit w/ malignant spinal cord compression). Staging/ restaging for tumors w/ clinically suspected rapid growth rate. (e.g. Transformed lymphoma with clinical evidence of rapid growth). Active disease –on treatment decision making. (e.g. on treatment, disease rapidly progressing clinically) Active disease –investigation of new high risk clinical findings. (e.g. immunocompromised patient w/ suspected pneumonia)</p>

For Clinical Trials imaging:

Clinical trials imaging should be triaged according to the same criteria as regular imaging.

For Example, BC Cancer Vancouver Centre is collating clinical trials imaging requisitions and sending them to the patient’s MRP; asking them to triage the requisition according to the criteria above. For other regional centers, please contact your clinical trial DI provider to develop a clinical trials triage strategy appropriate to your center. For centers who obtain clinical imaging from multiple sources it may be best to ask your DI provider to triage clinical trials requisitions the same way as routine patients.

Our strategy has both Proactive and Retroactive components:

As of March 21, 2020, for all Diagnostic Imaging requisitions:

1. **Proactive:** Designated staff for each centre will begin triaging incoming requisitions immediately.
2. **Retroactive:** Imaging requisitions already received by each regional centre will be pulled and triaged by designated staff.

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Communication strategy for Triage: Replies, Questions, Comments, Concerns.

1. For triaging questions related to individual requisitions, please contact the Diagnostic Imaging department ingesting the requisition.
2. For questions related to BC Cancer specific triaging policies, please contact: Dr. Monty Martin, Medical Director BC Cancer Diagnostic Imaging at mmartin@bccancer.bc.ca.

Triaging & response: BC Cancer Regional centers vs. Community Hospitals / Tertiary Hospitals Standard Guidelines

BC Cancer - Triage Stages & Actions				
Phase	Triage	What DI will Do	Postponement risk	BC Cancer Triage Guidelines
Phase 2	Stage A	Postpone appt	Minor	Exam can be postponed 8 weeks or more
Phase 2	Stage B	Postpone appt	Mild	Exam can be postponed 4-5 weeks
Phase 2	Stage C	Book appt	Moderate	Exam must be done within 2 weeks
Phase 2	Stage D	Book appt	Severe	Exam must be performed with highest priority within specified time frame
Phase 3	Stage A	Postpone appt	Minor	Exam can be postponed 8 weeks or more
Phase 3	Stage B	Postpone appt	Mild	Exam can be postponed 4-5 weeks
Phase 3	Stage C	Postpone appt	Moderate	Exam must be done within 2 weeks
Phase 3	Stage D	Book appt	Severe	Exam must be performed with highest priority within specified time frame

6.9. Oral Oncology/Dental Services Plan

Oral oncology issues and dental care are important components of care for many patients with cancer.

General Guidelines:

- elective cases should be delayed (i.e. 3 months, or at discretion of care team) and re-assessed at that point
- for urgent cases, if there is a risk of aerosols during dental exams (i.e. smoothing sharp teeth)/procedures (i.e., surgery), pre-procedure screening for Covid-19 testing should take place
- Standard protection and PPE should be worn when the patient is Covid -19 positive

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Centre Priority Phases

Phase	Prioritization Levels
0	No prioritization restrictions
1	Only patients in Levels 1-3 will be prioritized
2	Only patients in Levels 1-2 will be prioritized
3	Only patients in Levels 1 will be prioritized

Oral Oncology/Dental specific guidelines (see footnotes)

Prioritization Level		
1		<ul style="list-style-type: none"> Dental emergencies Assessment and treatment of head and neck cancer patients who have received, or will be receiving radiation therapy and chemo-radiation therapy Assessment and treatment of LBMT patients
2		<ul style="list-style-type: none"> Assessment and management of dental symptoms in patients receiving cancer treatments
3		<ul style="list-style-type: none"> Dental screening including bisphosphonates (unless noted urgent by oncologist)
4		<ul style="list-style-type: none"> All routine dental care

7.0 Consideration for treating patients with systemic and radiation therapy in relation to COVID-19 status

7.1. Assessing and treating patients awaiting tests results or with symptoms suggestive of COVID-19 not yet tested

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- Patients with symptoms that could be COVID-19 infection, who have not yet started on cancer treatment should either have their visits and treatment postponed or be urgently tested if treatment is urgent (see Appendix B for radiotherapy algorithm).
- Patients with symptoms that could be COVID-19 may be selected for urgent testing or isolation and deferred assessment and treatment depending on their priority level or clinical judgement (see Appendix B for radiotherapy algorithm).
- Patients, who are asymptomatic or minimally symptomatic awaiting results of testing for COVID-19, should not attend clinic until the test result confirms negativity with rare exceptions* (see Appendix B for radiotherapy algorithm).
- Patient treatment schedules may be required to be altered. If breaks are introduced into treatment as a result of interruption for testing. See appendix B for RT considerations and refer to policy III-120 on BC Cancer website for guidelines on delaying or deferring treatments for systemic therapy. Cases should be reviewed with MRP for specific direction if unclear what to do.
- All patients who have been tested for COVID-19, in whom a decision has been made to proceed to cancer treatment before the test has returned, should be treated using the same principles and precautions as a known positive patient.
- In a setting where Infection Control Guidelines recommend the use of specific PPEs for this patient circumstance, and those PPEs are not available to a health care provider such that the health care providers faces a certain and significant harm to their person, the duty of care to the patient may be discharged.

7.2. Patients with known COVID -19 infections (i.e. positive test results)

- Patients with confirmed COVID-19 should not attend clinic or be treated with some rare exceptions (considerations vary with therapy and disease state)*
- Patients who have previously tested positive for COVID-19, likely would be considered safe to treat if they are asymptomatic and 10 days have elapsed since the positive test. However, at this time, this would need to be assessed on a case-by case basis.
- Patients with COVID-19 should be assessed by phone first; if such patients arrive in clinic unplanned, they should be managed using current recommendations for infection control and isolated.
- All patients positive for COVID-19 being considered for treatment should be peer reviewed and discussed with the local department regional operations leader.
- Infectious diseases specialty advice should be obtained where-ever possible for all patients who have tested positive for COVID-19 being considered for treatment.
- A decision to proceed with treatment in a COVID-19 positive patient should only be made if the risk of death or disability from malignancy outweighs the risk of death from infection.
- If considered opinion is that the patient should proceed with treatment, and the patient is fully informed about the risks and consents, all local infection control measures should be followed as per facility and pandemic standards so as to minimize risks to others of infection spread.

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- In situations where multiple patients are treated who are COVID-19 positive in a setting where Infection Control Guidelines recommended specific PPE, consideration should be given to cohorting patients (i.e. treating positive patients consecutively) to preserve PPEs.
- In setting of limited access to N95 masks, health care providers can use the same mask for all COVID-19 patients until the mask becomes wet and unusable.
- In a setting where Infection Control Guidelines recommend the use of specific PPEs for this patient circumstance, and those PPEs are not available to a health care provider such that the health care providers faces a certain and significant harm to their person, the duty of care to the patient may be discharged.

*Exceptions:

1. Systemic therapy

In rare exceptional circumstances, patients with a positive test for COVID-19, who are asymptomatic, and/or have very mild symptoms may require urgent life or limb preserving therapy. Examples could include patients receiving treatment for rapidly progressing germ cell cancer, high grade lymphoma or other curable malignancies, for whom reasonable delays in treatment could compromise their chances of cure. Multidisciplinary and expert consultation (e.g. infectious disease) is recommended.

2. Radiotherapy

Delays in starting radiation or treatment interruptions can have negative consequences for patient outcomes. Any delay or suspension of radiation treatments should be as short as possible. "Target Treatment Start Within" times are meant as rough guide reflecting wait times for patients in particular priority groups that are in excess of usual wait times. These timelines will help inform decision making as to when a centre moves to the next centre priority phase. In the exceptional life or limb-threatening event that a patient needs to start or continue treatment, infection control procedures should be followed. For examples in various clinical setting, priority levels, and infection status (see Appendix B for radiotherapy algorithm).

8.0 Out of Province and Out of Country treatment

There are two main categories of Out of Province patients: 1) patients referred to BC Cancer who are not B.C. residents and/or Canadian citizens; and 2) patients referred out of province or out of country for treatment not available in B.C. (e.g. Proton therapy and Gamma Knife, Radio-isotope treatment, or CAR-T).

8.1. Non-B.C. patients referred to BC Cancer from out of province

Cases from out of province referred to BC Cancer will be considered on a case by case basis with approval as per usual practices by the centre dyad. Prioritization and handling of infection risk will be as per B.C. patient workflow as outlined elsewhere in this document.

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8.2. B.C. patients referred out of province for specialized treatment not available in B.C.

Radiation treatments

This primarily involves Proton Therapy in the United States (most often Seattle) and rarely Gamma Knife treatment (usually in Alberta or Manitoba). Many patients referred out of province are dependent children. Cases should be considered with respect to their fitness for travel and alternate treatments available in B.C. It is possible patients with known positive active infections will not be allowed to enter other countries. It is possible national and provincial borders will be restricted as the pandemic evolves. Caregivers with active symptoms may be screened and/or refused entry into other countries or provinces, or onto flights. Patients and caregivers will likely be asked to self-quarantine on return to Canada for two weeks. Multiple border crossings through phase of consultation, simulation and treatment, may delay the process of RT start due to self-quarantine requirements. As of March 17, 2020, the US-Canada border was only open for exceptional circumstances, and Seattle Proton Centre was still accepting referrals. In general alternate strategies should be used instead of out of province referrals for specialized treatments in all but exceptional circumstances.

Systemic treatments

Chimeric Antigen Receptor Therapy (CAR-T)- As of March 16, 2020, Seattle was no longer accepting referrals for paediatric or adult CAR-T therapy. There is minimal capacity for in country CAR-T therapy. Paediatric cases may be referred to centres in Quebec; information around process and access will be shared as it becomes available.

Other

Peptide Receptor Radionuclide Therapy (PRRT)

Patients with neuroendocrine tumours are referred to centres in Alberta and Quebec. Physicians should consider the clinical circumstances of patients on an individual basis and consider whether treatments could be deferred or skipped, particularly those that are in the maintenance phase of treatments.

9.0 High risk procedures

Some invasive procedures in radiotherapy may increase risk of aerosolization and therefore may need increased infection disease precautions at the time of the procedure which includes the use of N95 mask and PPE. Example of increased risk procedures may include but not limited to any radiotherapy requiring general anesthesia, endobronchial or endoesophageal brachytherapy, and nasopharyngoscopy. For any procedure a treating radiation oncologist is uncertain about should review the procedure with infection control and use appropriate precautions. If possible, consideration should be given to using a lower infection risk radiation technique on a case by case basis. For procedures requiring an anesthetic, where possible, cases should be converted to local anesthesia.

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The requirements for Infection Control during aerosolizing procedures are regularly reviewed. As of Mar 28 2020 a detailed framework for a application of COVID-19 PPE has been posted on the BC CANCER website at :

[http://www.bccancer.bc.ca/health-professionals/clinical-resources/provincial-cancer-clinical-management-guidelines-in-pandemic-situation-\(covid-19\)](http://www.bccancer.bc.ca/health-professionals/clinical-resources/provincial-cancer-clinical-management-guidelines-in-pandemic-situation-(covid-19))

At present the following has been recommended by infection control:

“N95 respirator is NOT required unless an aerosol generating medical procedure is being performed”

Nasopharyngoscopy is considered an aerosol generating medical procedure. If in doubt about other procedures, contact infection control before performing the procedure.

Additional details can be found at: http://our.healthbc.org/sites/BCCA_IC_Manual/routine-practices/barriers-and-ppe.

In a setting where Infection Control Guidelines recommend the use of specific PPEs for this patient circumstance, and those PPEs are not available to a health care provider such that the health care providers faces a certain and significant harm to their person, the duty of care to the patient may be discharged.

10.0 Bone Marrow Transplant (BMT)

As of March 19, 2020, the LBMT Program of B.C. is electively delaying transplants for some patients. Patients post high dose therapy and stem cell transplant (even autologous transplant) are immunocompromised to a much greater degree than most patients with cancer post standard dose chemo. This is not just during the neutropenic phase post chemo but extends at least to a year beyond based on immune reconstitution studies. This period of course can be much longer post allogeneic stem cell transplant. Their risk of significantly worse outcome if they were to contract COVID-19 infection post-transplant can be reasonably be expected to be higher than other pts. In addition, there are anticipated blood product and drug shortages which may impact care of patients post transplants in the coming weeks. Therefore, B.C. LBMT are prioritizing patients for transplant based on risk/benefit, taking into account current circumstances. Patients with myeloma and some lymphomas have alternative treatment options which for them will be safer at the moment compared to undergoing a auto-SCT.

As of March 13th LBMT physicians have been carefully going through patients listed for transplant and assessing each patient’s clinical situation and need to proceed to transplant on a case by case basis. The plan is for this to continue to occur on a weekly basis, as the situation related to COVID-19 evolves.

A plan to reschedule patients will be developed in the future.

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11.0 General information and Links

BC Cancer Infection Control Manual: http://our.healthbc.org/sites/BCCA_IC_Manual/routine-practices

BC Cancer Radiation Therapy Operational Considerations for COVID-19:
<http://our.healthbc.org/sites/PRT/Pandemic>

PHSA Staff Resources for COVID-19: <http://www.phsa.ca/staff-resources/covid-19-resources-for-staff>

BC Centre for Disease Control: <http://www.bccdc.ca/>

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12.0 Appendix A

12.1. Ethical Guidelines and Principles in cases of restricted services

When the demand for services exceeds the available resources, it is relevant to consider ethical principles in making resource allocation decisions.

- **Respect:** To whatever extent possible, individual autonomy, individual liberties, and cultural safety must be respected. This means respect for privacy and confidentiality, and an obligation on behalf of leaders and care providers to be truthful and honest to individuals affected.
- **The Harm Principle:** A society has a right to protect itself from harm, real or threatened. The government is justified in intervening and possibly impinging on the rights of individuals to protect the community from harm.
- **Fairness:** Everyone matters equally but not everyone may be treated the same. There are three competing forces in fair delivery of care and services that must be balanced. Persons ought to have equal access to health care resources (*equality*), however:
 - Those who most need and can derive the greatest benefit from resources ought to be offered resources preferentially (*equity*), and
 - Resources ought to be distributed such that the maximum benefits to the greatest number will be achieved (*utility*, and *efficiency*) and
 - Resource allocation decisions must be made with *consistency* in application across populations and among individuals regardless of their human condition (e.g. race, age, disability, ethnicity, ability to pay, socioeconomic status, pre-existing health conditions, social worth, perceived obstacles to treatment, past use of resources).
- **Least Coercive and Restrictive Means:** Any infringements on personal rights and freedoms must be carefully considered, and the least restrictive or coercive means must be sought.
- **Working together:** Cooperation is essential to this international threat—between individual citizens, health regions, provinces, and nations.
- **Reciprocity:** If people are asked to take increased risks, or face increased/disproportionate burdens during a pandemic influenza, they should be supported in doing so, and the risks and burdens should be minimized as far as possible.
- **Proportionality:** Measures implemented, especially restrictive ones, should be proportionate to and commensurate with the level of threat and risk.
- **Flexibility:** any plan must be iterative and adapted to new knowledge that arises.
- **Procedural Justice:** There will be accountability to a fair and transparent process throughout the planning and implementation of managing COVID-19.
 - *Openness and transparency:* Any planning, any policy, and any actions deriving from such policies, must be transparent and open to stakeholder input as well as available to public inspection. All plans and all decisions must be made with an appeal to reasons that are mutually agreed upon and work toward collaboratively derived goals.
 - *Inclusiveness:* This means that those making decisions should:
 - Involve people to the greatest extent possible in aspects of planning that affect them.

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- Decision makers should take into account all relevant views expressed.
- Work to make sure that particular groups are not excluded from becoming involved. Some people may find it harder to access communications or services than others, and decision-makers should consider how they can express their views and have a fair opportunity to get their needs for treatment or care met.
- Take into account any disproportionate impact of the decision on particular groups of people.
- *Accountability*: This means that those responsible for making decisions may have to justify the decisions that they do or do not make.
- *Reasonableness*: This means that decisions should be:
 - Rational
 - Not arbitrary or based on emotional reactivity
 - Based on appropriate evidence, available at the time
 - The result of an appropriate process, taking into account how quickly a decision has to be made and the circumstances in which a decision is made
 - Practical - have a reasonable chance of being feasible to implement and to achieve their stated goals

13: Appendix B: Additional considerations in Prioritization of Radiotherapy

13.1 Application of priority levels to viral illness settings in specific patient care setting

The following approach outlining timelines and actions for various scenarios to guide actions within a Prioritization Phase at given centre (as outlined in section 6 above); note that only some priority levels apply depending on the Prioritization Phase. See general principles for managing infected and at risk patients outlined above. The timelines listed below are delays in initiation of RT, or interruption of RT that may be reasonable over and above usual waits to start RT in the context of the pandemic; however, in practice each cases should be considered on a cases by case basis. In a situation where the patient is to be seen for consult or follow-up, ideally a assessment should be virtualized (by phone or videolink) rather than in person, and appropriate precautions used for the circumstance as per B.C. infection control policy. All patients are asked screening questions on entry to facility, and are categorized for infection status

Infection Categories for algorithm in Table below (13.1):

- 1) Asymptomatic patients, not on isolation, with no known risk factors (i.e. passed screening questions for symptoms, isolation and pending test results). Patients with prior COVID-19 infection who are considered fully recovered. (Asx, no Iso)

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- 2) Asymptomatic patients who have answered in a affirmative to one of the screening questions (i.e. exposure history due to COVID-19 contact or travel, or is still in an up to 14 day isolation period due to prior symptoms). Screen question group B. (Asx, Iso)
- 3) Any a symptomatic or mildly symptomatic patient that is a waiting test results for COVID-19. (Test Pend)
- 4) Patients with symptoms consistent with COVID-19 (i.e. screen question group A), who are not yet tested. (Sx, not tested)
- 5) Mildly symptomatic known positive test for COVID-19 who are not yet considered fully recovered. (Min Sx, pos)
- 6) Critically unwell symptomatic patients positive for COVID-19 (unwell, pos)

Table 13.1

1) Consultations: (see footnotes below for additional cell details and definitions)

CORRECT INTERPRETATION OF THE TABLE REQUIRES CAREFUL READING OF THE FOOTNOTES AT THE BOTTOM OF THE TABLES

Priority level	INFECTION CATEGORY					
	1: Asx, no Iso	2:Asx, Iso	3: Test pend	4: Sx, not tested	5:minSx, pos	6: Unwell, pos ⁷
Emergent - I	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	Delay, until well ⁹
Urgent - II	See, No Delay ¹	Delay until post isolation ⁸	Recat post test ²	Urgent test ³	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - III	See, No Delay ¹	Delay until post isolation ⁸	Recat post test ²	Urgent test ²	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - IV	Consider Delay ²	Delay until post isolation ⁸	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - V	Consider Delay ²	Delay until post isolation ⁸	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Elective - VI	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Delay, until well ⁹

2) Follow-up:

Priority level	INFECTION CATEGORY					
	1: Asx, no Iso	2:Asx, Iso	3: Test pend	4: Sx, not tested	5:minSx, pos	6: Unwell, pos ⁷
Emergent - I	See, No Delay ¹	Delay until post isolation ⁸	Recat post test ²	Urgent test ³	See, No Delay ¹	Delay, until well ⁹
Urgent - II	See, No Delay ¹	Consider Delay ⁵	Recat post test ²	Urgent test ³	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - III	See, No Delay ¹	Consider Delay ⁵	Recat post test ²	Urgent test ²	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - IV	Consider Delay ⁵	Consider	Recat post test ²	Delay until post	Assess t to Asx ⁴	Delay, until well ⁹

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		Delay ⁷		isolation ⁸		
Urgent - V	Consider Delay ⁵	Consider Delay ⁵	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Elective - VI	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Delay, until well ⁹

3) Patients waiting to start RT:

Priority level	INFECTION CATEGORY					
	1: Asx, no Iso	2:Asx, Iso	3: Test pend	4: Sx, not tested	5:minSx, pos	6: Unwell, pos ⁷
Emergent - I	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	See, No Delay ¹	Delay, until well ⁹
Urgent - II	See, No Delay ¹	Delay 7 days ⁵	Recat post test ²	Urgent test ³	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - III	See, No Delay ¹	Delay 10 days ⁶	Recat post test ²	Urgent test ²	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - IV	Consider Delay ⁵	Delay 14 days ⁶	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - V	Consider Delay ⁵	Delay until post isolation ⁸	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Elective - VI	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Consider Delay ⁵	Delay, until well ⁹

4) Patients on RT

Priority level	INFECTION CATEGORY					
	1: Asx, no Iso	2:Asx, Iso	3: Test pend	4: Sx, not tested	5:minSx, pos	6: Unwell, pos ⁷
Emergent - I	Tx, No Delay ¹	Delay 1 days ⁶	Delay 1 days ⁶	See, No Delay ¹	See, No Delay ¹	Delay, until well ⁹
Urgent - II	Tx, No Delay ¹	Delay 3 days ⁶	Recat post test ²	Urgent test ³	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - III	Tx, No Delay ¹	Delay 5 days ⁶	Recat post test ²	Urgent test ²	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - IV	Tx, No Delay ¹	Delay 5 days ⁶	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Urgent - V	Tx, No Delay ¹	Delay 5 days ⁶	Recat post test ²	Delay until post isolation ⁸	Assess t to Asx ⁴	Delay, until well ⁹
Elective - VI	Tx, No Delay ¹	Delay 5 days ⁶	Recat post test ²	Delay until post isolation ⁸	Consider Delay ⁵	Delay, until well ⁹

Footnotes:

See, No Delay¹- if situation allows, delay patient until known to be Covid-19 negative, if situation does not allow, see patient without delay using appropriate precautions. Where possible do assessments virtually i.e. by phone or video.

Recat post test²- Delay seeing patient until test result is back and re- categorize infection risk after positive test is known, and follow appropriate algorithm.

Urgent test³ - Swab patient for urgent testing within 2 days, and re-categorize with result. If testing is not available, consider delay until Asx if appropriate for case. For consults of follow-up in which a patient can be seen by phone or video only, testing is not required.

Assess t to Asx⁴- Assess the time the patient is expected to become a symptomatic and/or negative for

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virus, and delay seeing/treating them until then if time is within RT treatment parameters specific in levels of priority guidelines. Cases should be considered in terms of number of fractions remaining if on treatment, and delay if just started on RT within first 5% of prescribed fractions.

- Consider Delay⁵ - Consider delay of case for at least two weeks and reassess based on status of Pandemic, patients infection risk, and priority level. If capacity is readily available in all priority levels, and infection category 1, proceed with RT. If consult or follow-up appointment that can be done by phone or telehealth proceed if resources allow without delay.
- Delay 10 days⁶ - Delay up to 10 days, for delay with a time listed, delays are up to the specific time but could be sooner if infection risk level is low, and treatment is readily available. If capacity is readily available in all priority levels, and infection category 1, proceed with RT. For patients on ADT prior to RT who are responding to ADT, consider a more prolonged neoadjuvant phase.
- Unwell pos⁷ - Unwell positive cases in this table are considered those patient who are critically unwell in an ICU or CCU considered to be at risk of dying of infection if allowed to leave critical care.
- Delay until pos isolation⁸ - Delay seeing or treating the patients until the patient is out of isolation, which is presumed to be 14 days at present but should be checked with infection control as recommendations change. For those on RT, if the remaining isolation time is less than the acceptable interruption time, then delay until post isolation, otherwise get urgent testing done. If consult or follow-up appointment that can be done by phone or telehealth proceed if resources allow without delay.

Priority level VI (ie. elective cases) - Assumption is that elective cases will be deferred until crisis has abated during pandemic.

Delay until Well⁹ - For critically unwell patients, delay seeing the patient until they are well enough to attend, and recategorize them at that time (e.g. well, positive).

For all situations where a delay is suggested, the priority level parameter section in table 13.2 outlines reasonable delays in starting, and completing treatments.

13.2 Summary of reasonable delay times within Priority Levels for patient on or due to start RT

In regard to the table in section 13.1 above, where delays to start or interruption in treatment are suggested, the following table outlines proposed reasonable delays. In general the benefit of a course of RT is diminished if there is a delay in initiating treatment, or if there is too long of an interruption in treatment (especially if more than a week), but the impact varies with treatment intent and cancer site. The following table outlines reasonable delays for patients that are pending an RT start or are on RT already according to priority level. Duration of deferral of RT outlined below depends on specific case, and delays of several months may be acceptable in some circumstances.

Table 13.2
Reasonable Delays in starting RT, or interruptions in RT

Priority level	Radiotherapy Status	
	Pending RT start	On RT already

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Level I	1 days	1 days
Level II	7 days	3 days
Level III	10 days	5 days
Level IV*	14 days	5 days
Level V	21 days*	5 days
Level VI	28 days*	5 Days

*for level IV to VI, longer delays to initiation of RT may be appropriate for selected cases within these priority levels.

13.3 Brachytherapy considerations:

- In COVID -19 positive patients, treatment should be deferred, unless replacing brachytherapy with another treatment, or delaying start or completion of brachytherapy for a few weeks would significantly compromise survival.
- Due to the workload implications of brachytherapy, all non-urgent brachytherapy should be deferred as long as reasonable for an individual case, or where possible changed to external beam where appropriate for all cases during the surge phase of the pandemic.
- Many types of brachytherapy require a general anaesthetic and are dependent on health authority resources. Therefore the ability to perform such brachytherapy cases is contingent on prioritization of these staff and resources by the health authority, and may vary by region due to regional demands and staffing.
- Penile and cervical brachytherapy should generally proceed without undue delay if patient is in infection risk category 1 to 2 (i.e. NOT known or suspected to be positive for COVID-19, or being tested for it), and should be delayed until test is negative for risk category 3-5 if such delay would not compromise survival. If delay until resolution of risk is anticipated to compromise survival from cancer (e.g. to be more than 4 weeks) for a well patient known to be positive for COVID-19 (i.e. infection category 4), cervical brachytherapy may proceed with appropriate precautions in order to complete all fractions within standard time guidelines (i.e. total of 56 days for external and brachytherapy components).
- Vaginal obturator brachytherapy can proceed as planned in infection category 1 and 2, as no anaesthesia required, follow RT priority level II guidelines above. Treatment should be deferred in infection category 3-5.
- In general most low risk and intermediate risk prostate cancer patients can be deferred or converted to external beam radiation during a phase or restricted access to care during a pandemic, but clinicians should follow priority level III guidelines for high risk, and level IV for intermediate and low risk prostate cancer. Consider use of external beam RT (EBRT) as an alternative for high risk localized prostate cancer already on radiotherapy if delay to brachytherapy is anticipated to be prolonged. If patient has completed or is due to complete external beam component of a brachytherapy boost protocol, ideally boost should be done within 10 days of EBRT for HDR, and within 5 weeks of EBRT for LDR if capacity allows and patient is infection category 1. For patients pending an HDR boost, consider switching to LDR boost to minimize OR and anaesthesia time. For patients with known COVID-19 (i.e. those in infection risk category 3, 4, 5)

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prostate brachytherapy should be deferred for a few weeks until patient is in a less infectious state or changed to external beam.

- Breast brachytherapy should be converted to EBRT for infection risk category 2 to 4.
- Endobronchial or esophageal brachytherapy should be switched to an EBRT if possible for risk category 2 to 4.

13.4 Radioisotope considerations

- Use of radio-iodine needs to be reviewed with a associated nuclear medicine department and host hospital and in general would be deferred as appropriate to the Prioritization Phases outlined in section 6 above during the pandemic.
- Patients being considered for Radium 223 specifically should be assess for their goals of relative to the state of the pandemic, and alternate methods of symptom control may be appropriate. Patients on a course of radium 223 should be evaluated by phone for symptoms and progression and in generally there should be a lower threshold than usual for deferring or cancelling treatment if appropriate. As of Mar 31, 2020, the supply of Radium 223 has continued.

13.5 Clinical Trials

Clinical trials are a core activity of BC Cancer, and a significant number of patients participate in intervention based clinical trials at all BC Cancer sites. Prioritization of clinical trials activity aims to balance the need to maintain trial integrity while ensuring patient and staff safety. The prioritization levels of clinical trials activity are outlined below. A minimum, province-wide prioritization level is established by BC Cancer leadership and communicated to sites by the Provincial Clinical Trials Office (PCTO). The decision to advance Prioritization Phase will be determined by Centre Leadership in conjunction with Provincial Program Leaders and BC Cancer Executive based on capacity and demand. When a change in prioritization level occurs, this must be communicated by centers to sponsors and to the PCTO who in turn will notify the following parties of a change in level:

The office of the Senior Executive Director, Research
The Technology Development Office
The BC Cancer REB
Partner Institutions as Necessary

As the Prioritization Phase rises, so does the likelihood of clinical trial protocol violations. These will be reported to the REB and sponsors (refer to SOP "PRO-CTC-016 Protocol Deviation Documentation and Reporting"). During times of pandemic, the timelines for REB reporting are extended from 15 days to 30 days.

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In some instances, it may be appropriate to exempt clinical trials from restrictions (e.g. clinical trials with minimal interventions such as imaging, biomarkers; or specific high benefit, low impact studies). Principal investigators will be able to submit an exemption form to center leadership to request this on a case-by-case basis.

As of March 23, 2020, all BC Cancers are operating under at least level 3.

Trial Benefit and Complexity Definitions

Category	Patient Benefit	Resource Impact
High	Example: response rate >50%	Example: IV therapy, daily visits, multi-day PK sampling, inpatient), >5% risk of a adverse event requiring hospitalization
Medium	Example: response rate 20-50%	Example: IV therapy, weekly or less visits, but otherwise limited increase in resource utilization above standard of care; 1-5% risk of a dverse event requiring hospitalization
Low	Example: response rate <20% or unknown	Example: oral therapy, infrequent visits, no increase in resource utilization, or a avoidance of resource utilization compared to standard of care (e.g. oral agent avoids IV chemo); <1% risk of a adverse event requiring hospitalization

Trial Prioritization Levels

Priority Level	Potential Clinical Benefit	Resource Impact
1	High	Low
2	High	Medium
	Medium	Low
3	Medium	Medium
	High	High
	Low	Low
4	Medium	High
	Low	Medium/High

Prioritization Phases

Phase	Priority Levels
Phase 0	No restrictions
Phase 1	<ul style="list-style-type: none"> Hold accrual to trials in Levels 3-4 except for those that have a already consented Patients currently on treatment or in follow-up will continue to be managed as per protocol as long as it is safe and feasible to do so

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Phase 2	<ul style="list-style-type: none"> • Hold accrual to trials in Levels 3-4 including those that have already consented • Hold accrual to trials in Levels 2 except those that have already consented • Patients currently on treatment or in follow-up will continue to be managed as per protocol as long as it is safe and feasible to do so
Phase 3	<ul style="list-style-type: none"> • Hold accrual to trials in Levels 2-4 including those that have already consented • Hold accrual to trials in Level 1 except those that have already consented • For all ongoing studies, clinical investigators and sponsors should determine, in consultation with the BC Cancer REB, whether the participant's safety, welfare and rights are best served by continuing as a study participant as per protocol, or whether discontinuing the administration of investigational agent or even whether withdrawal from the trial is warranted
Phase 4	<ul style="list-style-type: none"> • Cease all clinical trial activities. This level is reserved for the event of a catastrophic compromise in health care services, where it is clear that staffing and resource capabilities are no longer able to support the safe conduct of clinical trials.

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