COVID-19 and Immune Compromised Populations

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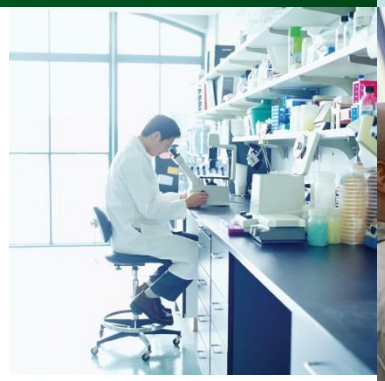
PICNet Lunch & Learn Series - May 20th 2021



PHSA IPAC

Infection Prevention & Control

Provincial Health Services Authority

Province-wide solutions. Better health.

Disclosures

- No affiliations or conflicts of interest

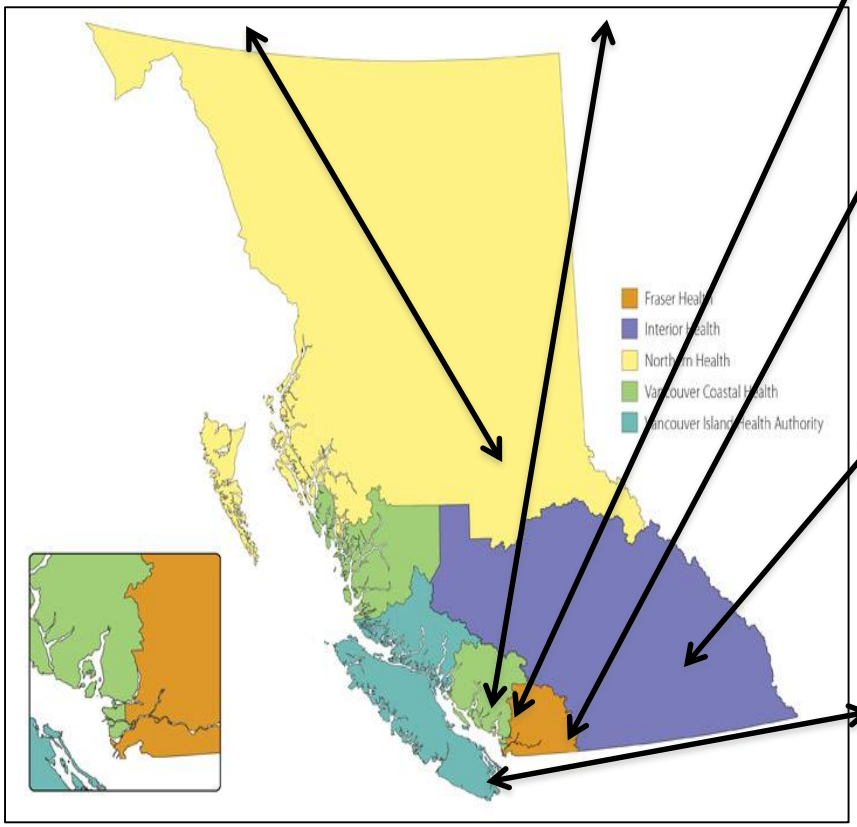
PHSA – BC Cancer

Provincial Health Services Authority

Prince George

Vancouver

Surrey



Abbotsford

Kelowna

Victoria

BC Centre for Disease Control
An agency of the Provincial Health Services Authority

BC MENTAL HEALTH
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An agency of the Provincial Health Services Authority

BCEHS | BC Emergency Health Services

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

Women's
BC WOMEN'S HOSPITAL & HEALTH CENTRE
An agency of the Provincial Health Services Authority

SUNNY HILL
HEALTH CENTRE FOR CHILDREN
A program of BC Children's Hospital

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BC Cancer Services Provided

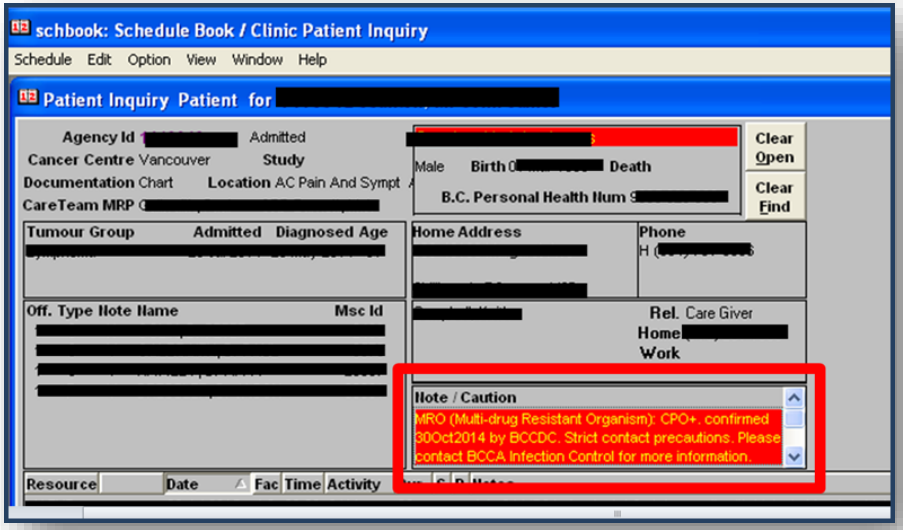
- Inpatient cancer care –
  Vancouver, 21 beds
- Outpatient visits –
  consultation, follow-up, supportive
- Cancer Treatment –
  chemo, radiation therapy, brachytherapy
- Surgical Services
- Diagnostics –
  PET/CT, MRI, scopes
- Supportive Care & Services –
  SLP, Nutrition, Psychiatry, Counselling
- Pain & Symptom Management Clinics
- Hereditary Cancer Program

Early Pandemic Issues

- Rapidly evolving information
- Early case reports of immune compromised patients with prolonged viral shedding
- Questions raised:
  - How are we going to approach this population?
  - How to define immune-status?
  - How are we going to ensure care teams have accurate patient info?

Establishing a Process

- Daily report of new COVID-19 positive results for BC Cancer patients
- MRP determines immune status (in consult with Med Micro as required)
- Site line list
- Patient flag entered



BCC ID	Test positive dat	Symptom onset	Last appointmen	Number of days of precautions requir	Isolation date of completion	40 calendar days from positive test	Strategy	Immunocompromised per MRP

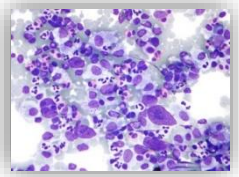
Defining Immunocompromise – Tricky Business!

Immune Compromised

- On chemotherapy for solid organ cancer
- Human Immunodeficiency Virus (HIV) with CD4 count of <200 cells/mm^3
- Biologic/immunomodulatory therapy

Severely Immune Compromised

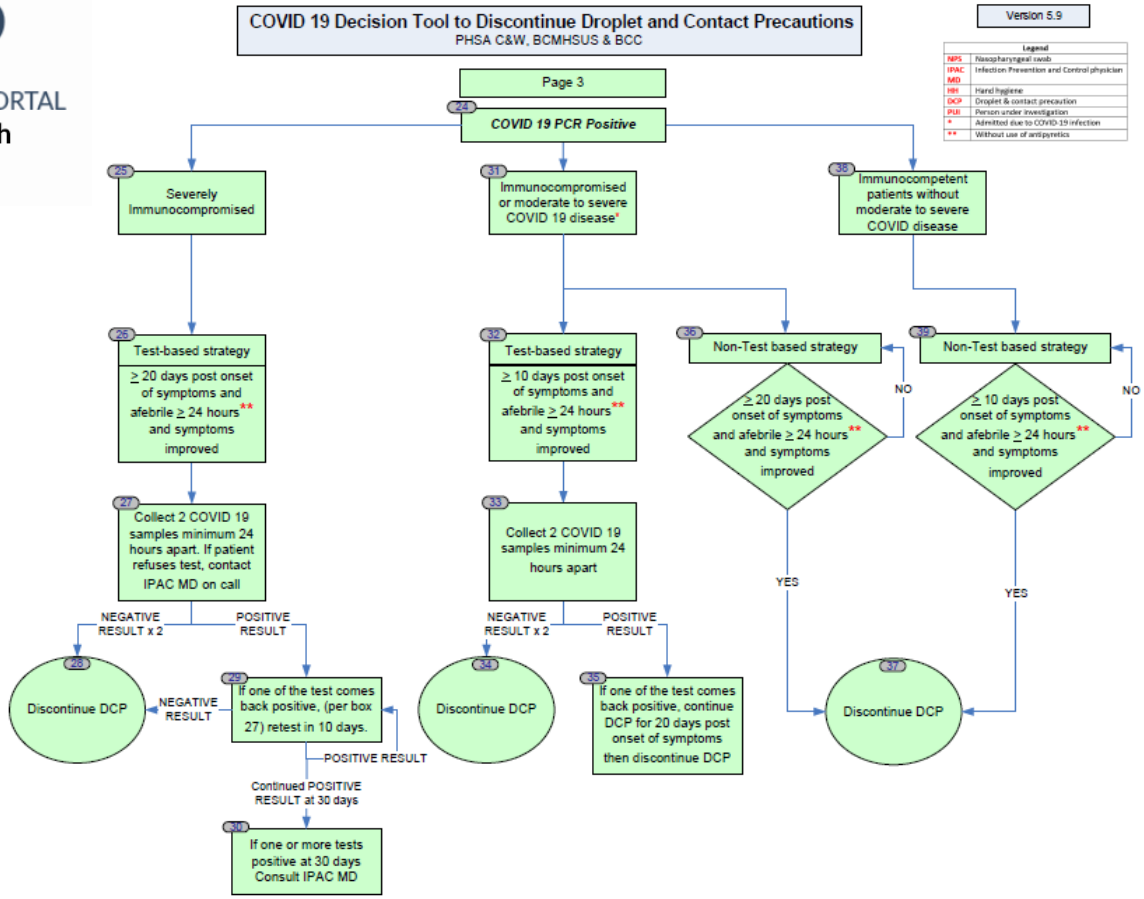
- Solid organ or bone marrow transplant
- Leukemia
- Lymphoma



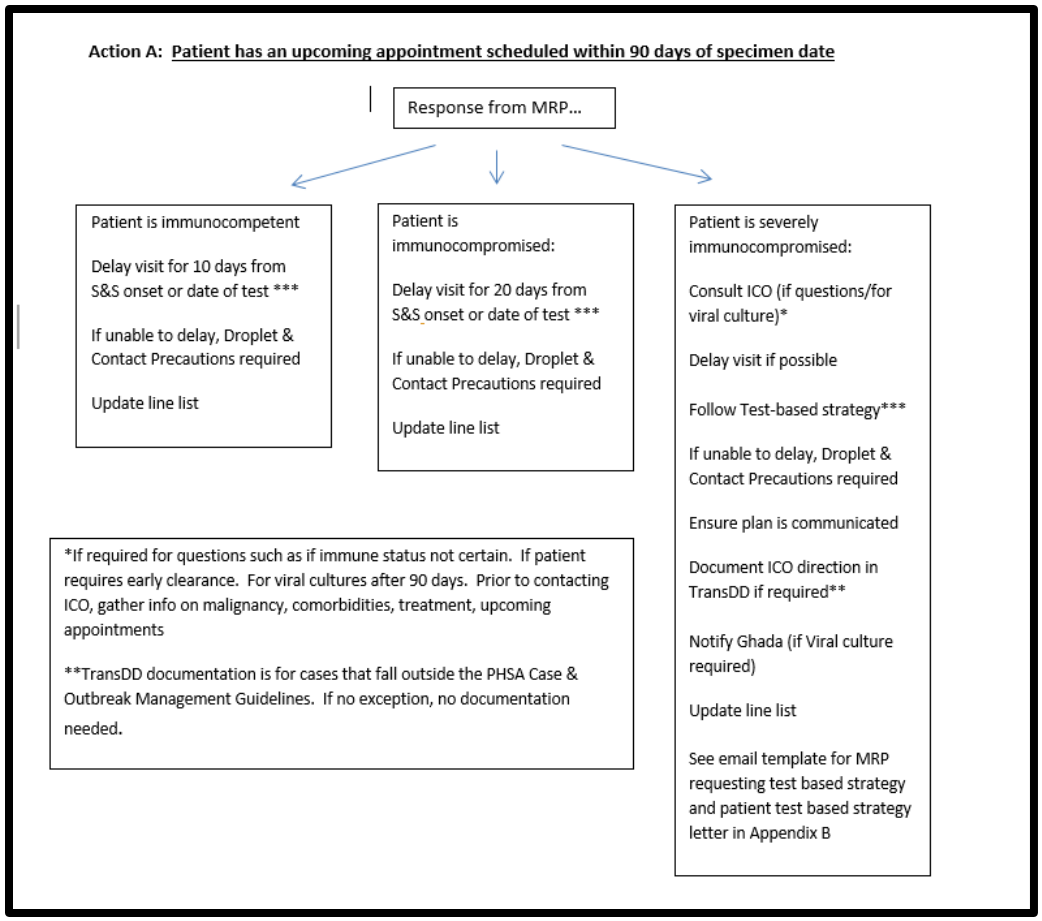
- Hypogammaglobulinemia
- Primary immunodeficiency's
- Combinations of diagnoses
- Immune suppressing medication

PHSA Case & Outbreak Management Algorithm

SHOP
SHARED HEALTH ORGANIZATIONS PORTAL
Search for documents for all Health Organizations: SHOP



BC Cancer ICP Algorithm

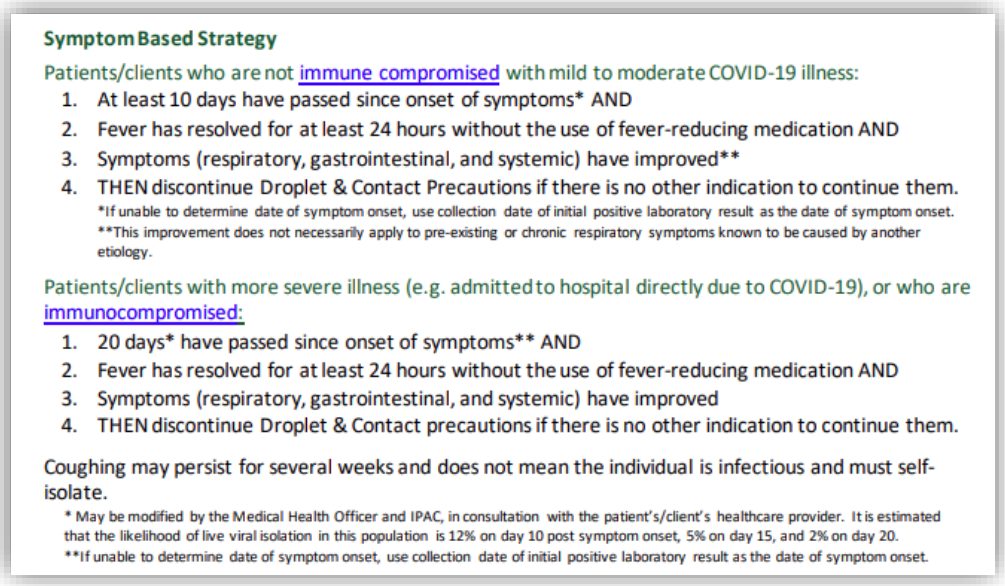


Symptom and Test Based Strategies

- Immune status determines if patient will use a **Symptom Based Strategy** or a **Test Based Strategy** to discontinue Additional Precautions
- Patients who are deemed **Immune Competent** or **Immune Compromised** use a Symptom Based Strategy

Symptom Based Strategy

- For immune competent, precautions are lifted after **10 days** from symptom onset and with symptom resolution
- For immune compromised, precautions are lifted after **20 days** from symptom onset and with symptom resolution
- Days refers to the **earliest** a patient can have precautions removed



Symptom Based Strategy

Patients/clients who are not immune compromised with mild to moderate COVID-19 illness:

1. At least 10 days have passed since onset of symptoms* AND
2. Fever has resolved for at least 24 hours without the use of fever-reducing medication AND
3. Symptoms (respiratory, gastrointestinal, and systemic) have improved**
4. THEN discontinue Droplet & Contact Precautions if there is no other indication to continue them.

*If unable to determine date of symptom onset, use collection date of initial positive laboratory result as the date of symptom onset.
**This improvement does not necessarily apply to pre-existing or chronic respiratory symptoms known to be caused by another etiology.

Patients/clients with more severe illness (e.g. admitted to hospital directly due to COVID-19), or who are immunocompromised:

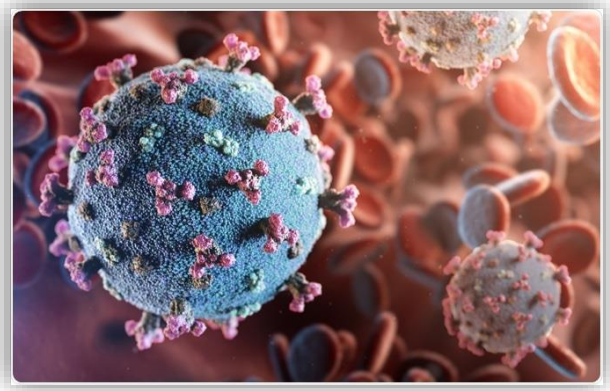
1. 20 days* have passed since onset of symptoms** AND
2. Fever has resolved for at least 24 hours without the use of fever-reducing medication AND
3. Symptoms (respiratory, gastrointestinal, and systemic) have improved
4. THEN discontinue Droplet & Contact precautions if there is no other indication to continue them.

Coughing may persist for several weeks and does not mean the individual is infectious and must self-isolate.

* May be modified by the Medical Health Officer and IPAC, in consultation with the patient's/client's healthcare provider. It is estimated that the likelihood of live viral isolation in this population is 12% on day 10 post symptom onset, 5% on day 15, and 2% on day 20.
**If unable to determine date of symptom onset, use collection date of initial positive laboratory result as the date of symptom onset.

Test Based Strategy

- Severely immune compromised individuals have the potential to shed viable virus for prolonged periods
- Due to prolonged shedding, a **test based strategy** is required to determine infectious period and remove Additional Precautions



Test Based Strategy and Severely Immune Compromised

Patients/clients who are severely immune compromised (these cases should be managed in consultation with IPAC Physician):

1. At least 20 days have passed since onset of symptoms* AND
2. Fever has resolved for at least 24 hours without use of fever-reducing medication AND
3. Symptoms have improved (respiratory, gastrointestinal, and systemic) THEN

4. Collect two NP swabs (or other approved samples) at least 24 hours apart
5. If both tests are negative, discontinue DCP
6. If one test comes back positive, retest in 10 day intervals until 2 swabs collected 24 hours apart are negative
7. Consult IPAC Physician on call if:
    a. Re-test on or after 30 days from onset of symptoms is positive or
    b. Patient/client refuses testing or
    c. Patient/client cannot be tested.

When to re-evaluate Testing Strategy

1. If a patient/client for whom a SYMPTOM BASED strategy was selected is re-tested for COVID-19 after the 10 or 20 day isolation period has elapsed and is positive, then consult IPAC.
2. IPAC Physician will evaluate whether chosen strategy and category were appropriate (e.g. Was disease mild or more severe? Is there new evidence of immune compromise or severe immune compromise that would change the strategy for discontinuation of precautions? If ≥3 months since previous infection, whether this represents persistent or recurrent infection).

Benefits of Process

- Clear definition criteria for reference
- Consistent process across all centers
  - Standardized algorithm and documents
  - Beneficial for remotely assisting sites when ICPs are away
- Clear communication of who our severely immune compromised individuals are
- Provides better support to clinical programs treating COVID-19 positive cases (smoother appointments, proper precautions to prevent spread among other patients)

Challenges of Process

- Patient care coordination
  - Increased workload for ICPs
  - Differences between center operations
- Confusion regarding different instructions from public health
  - Can be turned away from test centers if asymptomatic
- Patients refusing testing
  - Challenge around when to discontinue Additional Precautions
- Potential for multiple rounds of clearance testing
  - Can be frustrating and time-consuming for patient's and their families
- Communication challenges
  - MRP's not responding to immune status inquiries in timely manner
  - Staff confusion as to who requires tests

Acknowledgements

- BC Cancer IPAC
- PHSA IPAC Medical team
- PHSA IPAC

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Questions?