Infection Prevention and Control (IPC) Protocol for Obstetrical Procedures During COVID-19

Updated: May 25, 2021

This guidance is intended for health-care providers and is based on known evidence as of March 21, 2021.

Contents

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Guiding Principles:

- Provider Safety
- Patient Safety

Approach to IPC Includes:

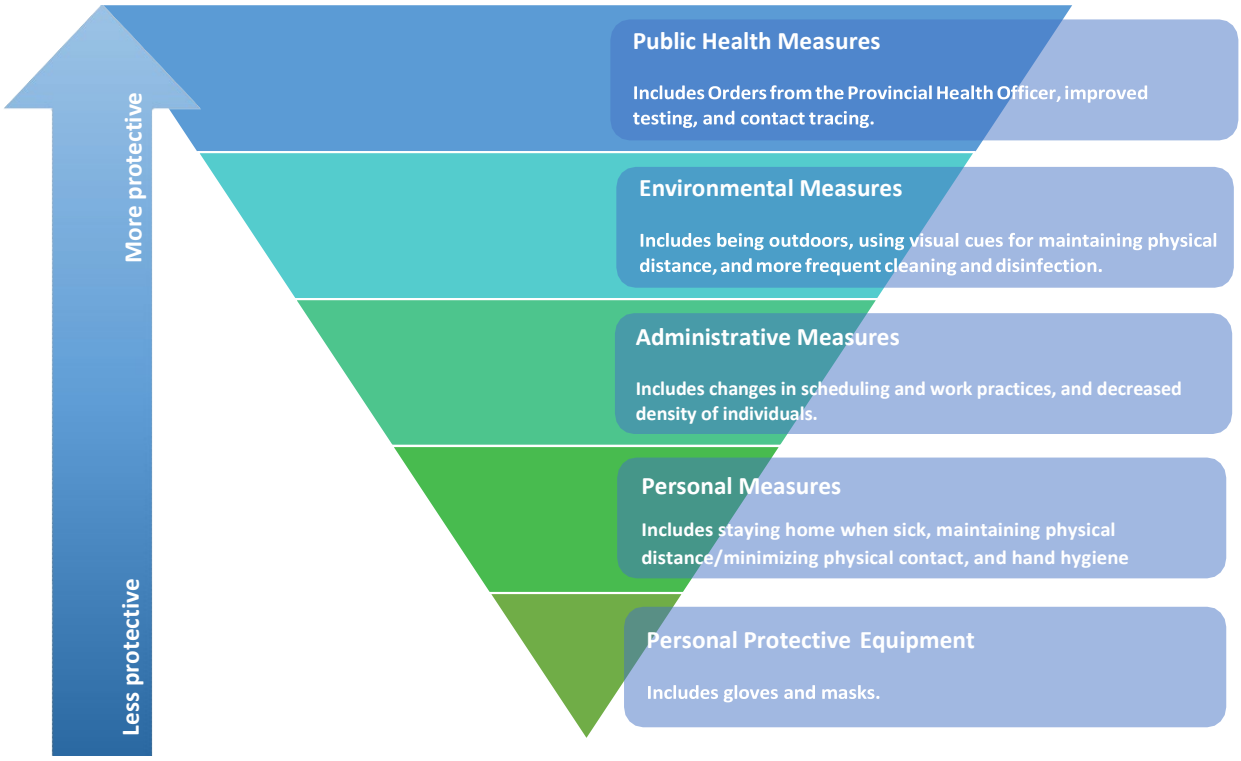
- Patient COVID-19 assessment
- Surgical risk assessment
- Personal protective equipment (PPE) recommendation

Background/Current Status

This guidance supports B.C. health authorities with ongoing obstetrical operative procedures in the context of the COVID-19 pandemic. The prevalence of COVID-19 within the maternity population in B.C. reflects that of the general population.[1] The current recommendations are based on our current understanding of local epidemiology, transmission of the virus and prevention of spread of COVID-19 in both the adult, pediatric and maternity populations. The protection of health-care workers must continue to be foremost as B.C. moves forward and in keeping with the ethical guidelines established for the management of the pandemic. Health-care facilities should continue to ensure that they meet all public health and infection prevention and control (IPC) recommendations. This applies to all staff, patients, relatives, and visitors.

The recommendations in this updated guidance are intended as **the minimum requirements** for the duration of the pandemic and are meant to be implemented as a part of the hierarchy of controls (see Figure 1) to limit exposure to COVID-19 in health-care facilities. Health authorities, under the guidance of public health, may choose to implement additional controls in select hospitals (e.g., management of surgical volumes, testing of certain high-risk patient populations) based on local or regional COVID-19 epidemiology. When COVID-19 prevalence is low, universal testing offers limited additional value, with downsides including the detection of false positives and recovered COVID-19 positives with inactive virus.

Figure 1: Hierarchy for Infection Prevention and Exposure Control Measures for Communicable Disease



Based on the current epidemiology of COVID-19 in B.C.[i], the percentage of positive tests has varied from 3 to 15% across different health authorities since November 2020. People who are scheduled for surgery and do not have risk factors for, or symptoms of COVID-19 can still be considered low risk for having COVID-19. The maternity population is no different and appears to mirror the general population in B.C.

Given the role of support persons during birth, all patients and support persons arriving to a maternity or birthing unit must be assessed for risk factors and symptoms of COVID-19 **in the context of the household within which they live**. Most acquisition of COVID-19 is from close contacts so screening of the household members and planned support person is important. Testing should be performed according to the most up-to-date BCCDC testing criteria and recommendations and may be modified regionally where appropriate. Careful, consistent risk assessment is key to identifying and mitigating risk for both patients and providers. Regardless of the presence of risk factors, symptoms or testing, providers must follow PPE requirements with careful attention to appropriate and diligent donning and doffing practices.

Unique to obstetrics patients is the potential for the evolution of their condition during their hospital stay. Although initial screening should be performed during every admission, a second risk assessment should be performed prior to

[i] Epidemiologic considerations: daily case counts; test positivity rate; incidence rate; point prevalence.

any surgical procedure (e.g., emergency caesarean section) to ensure there are no new risks or symptoms for COVID-19. Given that the obstetric patient's initially screening status may change, the pre-surgical huddle is very important.

The entire surgical team, including anesthesiologist, surgeon, assistant, nurses, etc., is responsible for deciding the patient risk category together and the expectation is that obstetrical surgery (regardless of it being emergency or elective) will not be delayed waiting for testing results.

Scope

- This protocol applies to all obstetrical patients undergoing a surgical procedure in B.C. during the COVID-19 pandemic.
- Individual patient risk assessment should be applied to every surgical patient when time permits. See the provincial point-of-care risk assessment tool for more information.
- Adult non-obstetric surgery and pediatric populations have additional considerations and hospitals should refer to these guidance documents for specific recommendations:
    - IPC protocol for pediatric surgical procedures during COVID-19
    - IPC protocol for adult surgical procedures during COVID-19

When to Proceed with Surgery in Patients with Confirmed, Suspected, or Recovered COVID-19?

In the adult and pediatric surgical populations, there exists the ability to define procedures as elective, urgent or emergent. However, the nature of obstetrical care makes all obstetrical-related procedures as non-elective. In adult populations, there is an increased risk of perioperative morbidity within the first four weeks of diagnosis.[2,3] The same has not been studied in the obstetrical population. Regardless, due to the nature of obstetrical procedures, surgery should not be delayed while waiting for testing results for any patient, including patients with COVID-19 within their infectious window or patients recovered from their infection.

When is a patient with COVID -19 no longer infectious?

Refer to the BCCDC's Interim Guidance: Public Health Management of Cases and Contacts Associated with Novel Coronavirus (COVID-19) in the Community for information about COVID-19 incubation and communicability period. Live viral shedding may occur for longer in those with COVID-19 illness of greater severity and those who are immunocompromised. Rates of re-infection are low within 60 days of COVID-19. However, if more than 60 days, the

patients should be treated as per the health authority protocols. The following were derived for the adult non-pregnant population and not specifically studied in obstetrical populations. However, the physiology of pregnancy is unlikely to impact these key concepts greatly. As data evolves, pregnancy-specific data may become available.

For further information on discontinuation of isolation and other disease transmission-based precautions see Discontinuing Additional Precautions Related to COVID-19 for Admitted Patients in Acute Care.

Should Testing for COVID-19 be Performed for Asymptomatic Patients Prior to Elective Surgery?

Universal testing for COVID-19 in labour and delivery settings has been reported. Patients presenting in the asymptomatic or pre-symptomatic phase of infection are an exposure risk for health-care workers (HCWs) and other patients, particularly when patients are admitted to hospital during delivery. Adding to the complexity of the obstetrical population is the longer stay with labour prior to an obstetrical procedure. The role of pre-operative screening of asymptomatic patients to mitigate this risk is unknown. Although this may aid in disposition of obstetrical patients, there is a possibility of the detection of false positives and recovered COVID-19 positives with inactive virus. However, the risks of testing asymptomatic patients may be outweighed by the benefits when population prevalence is high. Therefore, the addition of pre-operative testing to symptom-based screening may be of value in certain patient populations in areas where SARS-CoV-2 transmission risk is high.

Patient populations and the needs of each facility are unique, therefore, pre-operative testing will vary across health authorities or institutions. When prevalence is high in a given area‡, there is an opportunity for local multidisciplinary discussion (facilitated through the emergency operations centre level or equivalent) that considers all of the administrative, environmental and public health measures to reduce transmission risk. In addition to the individual patient risk assessment already in place, this includes pre-operative testing of asymptomatic individuals undergoing high risk procedures.

The rates of COVID-19 infection in pregnancy in B.C. match those of the general population and would be expected to be comparable with the rates of asymptomatic infection in the general population. When the decision is made to offer pre-operative testing for asymptomatic surgical patients, consideration for patients admitted for labour and delivery to undergo testing given the likelihood of requiring an operative delivery should occur.

‡ Data are limited and each metric has unique limitations. Recent experience in Fraser Health provides one definition of what triggered testing-based screening for high prevalence. In that instance, testing-based screening was initiated and continued when community testing positivity rate exceeded 5% and there were two or more COVID-19 outbreaks within an acute care facility in the health authority.

Guidance for Which Patients Should Be Tested for COVID-19 Pre-operatively

Clinical decision-making needs to guide testing decisions. The following pre-operative patients should be tested:

1) Patients with any sign or symptom consistent with COVID-19 infection (any symptom on the list in appendix 1), even if that symptom is one that can be explained by another diagnosis (e.g., fever in labour); **or**

2) Asymptomatic patients from units or facilities with an active COVID-19 outbreak (or units/facilities with enhanced surveillance); **or**

3) Asymptomatic patients who have been instructed by public health to self-isolate as a close contact of a positive COVID-19 case or symptoms consistent with COVID-19; **or**

4) Asymptomatic patients whose support person or household members have symptoms of COVID-19 or are a close contact of COVID-19. Confirmation of the exposure with public health is not necessary; **or**

5) Asymptomatic patients who reside in an area with a high prevalence of COVID-19. The health-care team should consider the addition of test-based screening when the following criteria are met: community test positivity rate exceeds 5% for a sustained period of time, incidence rate is greater than 10.1/100,000, and two or more COVID-19 acute care outbreaks.

    - **When this criterion is triggered, consideration of testing for COVID-19 in all patients admitted to labour and delivery should occur due to the high rates of operative intervention.**
    - The final decision around proceeding with test-based screening should be based on local criteria that meet the needs of patient care, providers, IPC and public health.

It should be noted that regardless of test results, patients with a recent COVID-19 contact would be cared for using droplet/contact and airborne precautions during the 14-day incubation period (i.e., yellow risk category as per the Patient Risk Category Table).

COVID-19 Immunization

The continued roll-out of B.C.'s COVID-19 immunization plan is likely to have a pivotal effect on pre-surgical patient assessment. More evidence is needed on the impact COVID-19 vaccines have on patients' risk of transmission, perioperative risk and long-term immunity. Therefore, all patients, regardless of their immunization status, should continue to be screened based on the current patient risk assessment (Appendix 1).

Support Persons During Labour and Delivery

Most of the time, obstetrical patients have support persons during their labour and delivery. Determination of the support person as an essential visitor will be made by each health authority or facility staff, in collaboration with the patient/or substitute decision-maker and health-care team. If the support person has symptoms of COVID-19 they should undergo testing; if they have a confirmed infection and are within their infectious window, they are generally excluded from the delivery suite and operating room. The decision to allow the support person to return if symptomatic, or during their quarantine or infectious window, should be in conjunction with local infection prevention and control teams and based on the infection risk of their presence compared to the harm of their absence. For support persons under quarantine or in a unique circumstance where they are symptomatic or within their infectious window but must be present, contact the local IPC teams for guidance on the presence or exclusion, as the degree of risk is determined on a case-by-case basis.

Neuraxial Anesthesia

Many obstetrical procedures are performed under neuraxial anesthesia with low risk of conversion to general anesthesia. For patients in red/yellow risk categories, the team may choose to wear either an N95 respirator or surgical mask, taking into consideration the risk of conversion to general anesthesia, the ease and rapidity with which a mask may be changed, mask availability, and the COVID-19 risk to providers should the patient urgently require an aerosol generating medical procedure. This should be discussed at the pre-operative huddle.

Risk Factor Assessment and Symptom Screening

A. Urgent and Emergent Surgical Procedures

- Urgent or emergent surgical procedures should proceed as medically indicated regardless of the patient's COVID-19 status and should not be delayed for testing or test results. Patients reporting any symptoms consistent with COVID-19 or other diagnoses (e.g., fever in labour) should be tested and treated as possible COVID-19 infection.

B. Planned Obstetric Surgery

- Surgical patients should self-monitor for COVID-19 symptoms prior to surgery.
- Obstetrical patients who develop symptoms, are in self-isolation as advised by public health or are a close contact with a confirmed case should be tested and contact their obstetrics care provider. Procedures should continue without delay.

C. Pre-Surgical Patient Assessment

- For patients presenting for scheduled obstetric surgery, the COVID-19 Surgical Patient Assessment Form (see Appendix 1) should be completed 24 to 72 hours prior to scheduled surgery, by the pre-admission unit (nurse, medical office assistant or anesthesiologist) over the phone and then again in person when the patient arrives at the

hospital on the day of surgery[ii]. This will allow testing (if required) to be completed prior to scheduled procedures. The patient's assessment form should be placed on the patient's chart.

- If a patient has signs and symptoms consistent with COVID-19 screening questionnaire, they should be tested. Analysis of Canadian symptom data shows the current community-based testing criteria misses up to 10% of pregnant women with COVID-19 in B.C.[1]
- For urgent or emergent procedures, the patient assessment form should be completed upon arrival to the perioperative area or in the operating room (OR) (if required in emergent situations). Do not delay an OR procedure if the pre-surgical form has not been completed due to the time-sensitive nature of obstetrical care.
- IPC risk categories have been developed to guide PPE use before, during and after a surgical procedure. Risk categories are designated as green (low risk), yellow (unknown or moderate risk), and red (highest risk).
- For the Code OB/Code Pink patient with obtained history where an appropriate history has been obtained and has not changed (e.g., development of fever in labour), during the admission, patients can continue as originally classified. For Code OB/Code Pink patients where a history cannot be obtained due to the emergent nature of care, classify them as yellow.

D. Pre-surgical Procedure Huddle

- The pre-surgical huddle with the full surgical team (anesthetist, surgeon, maternity care provider, pediatricians, assistants, nurses, etc.), is one of the strongest determinants for achieving the highest levels of safety and quality. All other standard elements of a surgical safety checklist should be discussed at this time.
- The patient risk category is determined based on information gathered from the patient assessment form, including COVID-19 testing results if applicable and should be agreed upon by the entire surgical team (see Appendix 1).

For operative procedures during the course of labour or postpartum care, the team needs to consider if the patient's clinical status has changed to warrant a change in patient risk category, such as new onset of fever in labour. Despite an alternative diagnosis, these patients should be tested and the procedure should proceed in the appropriate risk category (generally yellow).

Recommended PPE during the surgical procedure is provided in Section E: Algorithm for Management of Obstetrical Surgical Patients.

[ii] Every effort should be made to assess the patient in their preferred language.

E. Algorithm for Management of Obstetrical Surgical Patients

	Green	Yellow	Red
Team huddle	**Team to review** • Confirm patient risk category • Anesthetic approach • Staff to be in OR (e.g., midwife/family physician) • Presence of support person in OR as per routine	**Team to review** • Confirm patient risk category • Anesthetic approach • Staff to be in OR (e.g., midwife/ family physicians) • Presence of support person in OR[iii]	**Team to review** • Confirm patient risk category • Anesthetic approach • Staff to be in OR (e.g., midwife/ family physicians) • Presence of support person in OR[iv]
Neuraxial anesthesia	**Routine personnel in the OR** All personnel in the OR don: • Surgical mask • Eye protection • Gown/gloves if dictated by point-of-care-risk assessment	**Limit personnel in the OR** [v] All staff in OR suite don: • Fit-tested N95 Respirator • Face shield or goggles • Gown & gloves	**Limit personnel in the OR** All staff in OR suite to don: • Fit-tested N95 Respirator • Face shield or goggles • Gown and gloves
If general anesthetic (GA): Intubation and extubation	**Routine personnel in the OR** All staff in the OR don[6]: • Routine OR protection • Surgical mask • Eye protection • Gown/gloves	**Limit personnel in the OR** All staff in the OR don: • Fit-tested N95 Respirator • Face shield or goggles • Gown and gloves Pediatric team in N95 respirators in room at start of procedure[vi] All non-essential personnel to leave the room for extubation	**Limit personnel in the OR** All staff in the OR: • Fit-tested N95 Respirator • Face shield or goggles • Gown and gloves Pediatric team in N95 respirators in room at start of procedure[vii] All non-essential personnel to leave the room for extubation
Recovery regional	Recover as per routine at site	Recover in the designated COVID location using droplet/contact precautions until ready to move to designated unit	Recover in the designated COVID location using droplet/contact precautions until ready to move to designated unit

[iii] The guiding principle is that there is a support person in the OR if the procedure is performed under neuraxial anesthesia, including yellow/red patients. Support persons should be screened for symptoms and wear appropriate PPE as per site/health authority protocol.

[iv] The guiding principle is that there is a support person in the OR if the procedure is performed under neuraxial anesthesia, including yellow/red patients. Support persons should be screened for symptoms and wear appropriate PPE as per site/health authority protocol.

[v] At any time based on any provider's personal assessment of risk, they may choose to wear either a surgical mask or N95. This personal decision does not impact the risk stratification nor the personal PPE decision of the rest of the team.

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Phase 1 recovery GA	Recover as per routine at site	Recover in the OR suite until ready to move to designated unit Patient may be moved to designated unit after appropriate air exchanges	Recover in the OR suite until ready to move to designated unit Patient may be moved to designated unit after appropriate air exchanges.
Cleaning and disinfection	Cleaning should be determined as per site specific routine protocols	All cleaning staff in OR don: • Surgical mask • Eye protection • Gown/gloves	All cleaning staff in OR don: • Surgical mask • Eye protection • Gown/gloves
Disposition	Transfer patient to postpartum as per routine care	• Return patient to appropriate inpatient unit based on further patient risk assessment	• Return to appropriate COVID-19 isolation room if confirmed positive or isolation room if unknown

Appendix 1: COVID-19 Surgical Patient Assessment Form - Obstetrics

Health Authority LOGO

Patient Information

Name:
Date of birth:
Language:
PHN:

Nurse or medical office assistant screen:

Able to obtain patient history? □ Yes □ No If No, go to physician screen section

Does the patient, planned support person or any household member have a risk factor for COVID-19 exposure?

In the last 14 days has the patient, planned support person or any household member:

Returned from travel outside of Canada? □ Yes □ No When? Date: _____

Been in close contact with anyone diagnosed with lab confirmed COVID-19 including members of the household in which the patient or partner lives? □ Yes □ No When? Date: _____

Been advised to self-isolate or quarantine at home by public health? □ Yes □ No When? Date: _____

Lived or worked in a setting that is part of a COVID-19 outbreak? □ Yes □ No When? Date: _____

Previous COVID-19 test(s) performed? □ Yes □ No Date: _____ (space for more than one, record all)

Result: □ Negative □ Positive

Does the patient, planned support person or household member have new onset COVID-19 like symptoms?

24 to 72 hours prior – Date/Time: _____		Day of surgery – Date/Time: _____	
Fever	□ Yes □ No	Fever	□ Yes □ No
Cough	□ Yes □ No	Cough	□ Yes □ No
Shortness of breath	□ Yes □ No	Shortness of breath	□ Yes □ No
Diarrhea	□ Yes □ No	Diarrhea	□ Yes □ No
Nausea and/or vomiting	□ Yes □ No	Nausea and/or vomiting	□ Yes □ No
Headache	□ Yes □ No	Headache	□ Yes □ No
Runny nose/nasal congestion	□ Yes □ No	Runny nose/nasal congestion	□ Yes □ No
Sore throat or painful swallowing	□ Yes □ No	Sore throat or painful swallowing	□ Yes □ No
Loss of sense of smell or taste	□ Yes □ No	Loss of sense of smell or taste	□ Yes □ No
Loss of appetite	□ Yes □ No	Loss of appetite	□ Yes □ No
Chills	□ Yes □ No	Chills	□ Yes □ No
Muscle aches	□ Yes □ No	Muscle aches	□ Yes □ No
Fatigue	□ Yes □ No	Fatigue	□ Yes □ No
Screened by: **Signature:**		**Screened by:** **Signature:**	

Physician screen of patient:

COVID-19 risk factor?	□ Yes □ No	
COVID-19 symptoms?	□ Yes □ No	
COVID test result	□ Yes □ No □ Pending	Result: _____

Physician screen of support person:

COVID-19 risk factor?	□ Yes □ No	
COVID-19 symptoms?	□ Yes □ No	
COVID test result	□ Yes □ No □ Pending	Result: _____

Final surgical team assessment:

COVID-19 risk factor (travel, contact, outbreak)?	□ Yes □ No □ Unknown
COVID-19 like symptoms that cannot be explained by another medical or surgical diagnosis?	□ Yes □ No □ Unknown
COVID-19 test result?	□ Yes □ No □ Unknown □ N/A

Patient Risk Category Table

Consider consulting medical microbiologists and/or infectious disease physician for certain scenarios.

Step one			Step two (If COVID-19 PCR results available)*	
Must have this information prior to surgery		COVID-19 risk category	COVID-19 test results **	COVID-19 risk category
From COVID-19 outbreak unit/facility or instructed to self-isolate by public health	COVID-19 symptoms*			
No	No	Green	Negative**	Green
No	Yes/Unknown	Yellow		Green
Yes	No	Yellow		Yellow
Yes	Yes/Unknown	Yellow		Yellow
Unknown	Unknown	Yellow		Yellow
			Positive***	Red

* If a caregiver/household member is symptomatic or has risk factors they should be tested as well.

**Interpret the negative test in the clinical context. If there is confirmed COVID-19 exposure within the household and a strong clinical suspicion of COVID-19 despite negative testing, treat as yellow. (continue droplet and contact precautions)

*** If within 10 days of positive result for child with mild disease or immunocompetent patients only. For immunocompromised patients, or patients with severe illness please consult infection control. Droplet and contact precautions may be required to be continued for alternative diagnoses.

For non-immunocompromised patients with a history of COVID-19 but are outside the infectious window:

10 – 60 days after positive test result, if they only have mild disease and are not immunocompromised → consider as green

>60 days after positive test result, screen as if they have not had COVID-19 as reinfection is possible.

Patient Risk Category (circle one):

Green	Yellow	Red

Physician Signature: _____ Date: _____

(Surgeon or Anesthesiologist)

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BCCH – BC Children's Hospital
BCWH – BC Women's Hospital
CRG – Clinical Reference Group
FHA – Fraser Health
FNHA – First Nations Health Authority
IHA – Interior Health
NHA – Northern Health
PHC – Providence Health Care
PSBC – Perinatal Services BC
PHSA – Provincial Health Service Authority
VCH – Vancouver Coastal Health
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