

## BC COVID THERAPEUTICS COMMITTEE (CTC)

### Practice Tool #3 – Drug-Drug Interactions and Contraindications

**September Update:**

- NEW guidance on managing patients with unknown renal function or where no recent laboratory work is available
- Appendix with practical information regarding ordering STAT serum creatinine at LifeLabs (see last 2 pages)

#### OVERVIEW

**General Information**

Both components of nirmatrelvir/ritonavir (Paxlovid) inhibit CYP 3A4 and p-gp and have numerous drug-drug interactions, some which contraindicate its use. Ritonavir also inhibits CYP 2D6 to a lesser extent. Nirmatrelvir and ritonavir are themselves metabolized by CYP 3A4, and drugs which induce these enzymes will lead to suboptimal concentrations of nirmatrelvir and ritonavir. Impact of nirmatrelvir/ritonavir on DDIs due to CYP 3A4 inhibition lasts ~2 days after stopping.

The following table was developed to identify drug-drug interactions and contraindications, as well as their potential management strategies. Some management strategies (e.g., DOACs, HIV and cancer medications) were developed in consultation with local experts and the Ministry of Health. This is only a guide. Those prescribing or dispensing nirmatrelvir/ritonavir need to be aware that as this is a new drug and new information is emerging rapidly.

The most comprehensive drug-drug interaction checker with nirmatrelvir/ritonavir was developed by the University of Liverpool and is found here: <https://www.covid19-druginteractions.org/checker>. ***This tool should be consulted when considering modifying therapy due to drug-drug interactions. Use multiple resources (e.g., LexiComp) as some information may be conflicting or incomplete. When assessing interactions using this website, read the notes section as the advice may be extensive. Some interactions are not listed in the monograph. This tool does not replace clinical judgement and pharmacy/expert consultation.***

***An accompanying Practice Tool 6: Drug-Drug Interaction Pre-printed Prescription can be used to prescribe therapy modifications on the basis of this guidance***

#### CONTRAINDICATIONS and CAUTIONS (Medical Conditions)

**The following medical conditions are either CONTRAINDICATED with nirmatrelvir/ritonavir or CAUTION is required** (management strategies may be possible whenever specified; consult an expert if in doubt)

|                                                                                                |                                                                                                                                                                             |
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| Hypersensitivity to nirmatrelvir or ritonavir                                                  | Contraindicated in patients with a history of significant hypersensitivity reactions (e.g., anaphylaxis, toxic epidermal necrolysis (TEN) or Stevens-Johnson syndrome)      |
| End-stage liver disease (Child-Pugh C or cirrhosis);                                           | Transaminase elevations, clinical hepatitis, and jaundice have occurred in patients receiving ritonavir. Metabolism of nirmatrelvir/ritonavir may be impacted. Use caution. |
| Untreated and treated HIV infection may benefit from consultation with a clinician involved in | Treatment should not be delayed or withheld based on viral load, CD4 count or treatment status; however, clinicians who treat HIV can be                                    |

|                                                                                 |                                                                                                                                                                                                                                    |
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| treatment of HIV (e.g., ID, GP treating HIV or HIV pharmacist)                  | helpful in patient assessment and management. See also <a href="http://bccfe.ca/therapeutic-guidelines/bc-cfe-guidelines-use-paxlovid-and-arvs">http://bccfe.ca/therapeutic-guidelines/bc-cfe-guidelines-use-paxlovid-and-arvs</a> |
| Persons with opioid use disorder require counselling and/or expert consultation | Nirmatrelvir/ritonavir increase the levels of fentanyl and risk of fatal overdose. Mitigation strategies should be explored and implemented.                                                                                       |

**Patients with Renal Disease and Serum Creatinine Lab Results**

Systemic exposure of nirmatrelvir increases in renal impairment and dose adjustments are used in eGFR 30-60 ml/min. In dose-finding studies, doses of up to 8-fold higher were used in healthy patients with no exposure-related adverse effects noted. While nirmatrelvir and ritonavir are not nephrotoxic and have a wide therapeutic and safety index, no dose adjustment guidance is currently available for patients with eGFR <30 ml/min. The manufacturer is conducting safety and efficacy studies in this population and further guidance is forthcoming; in the meantime, **patients with known eGFR <30 ml/min should not be prescribed nirmatrelvir/ritonavir and be referred for remdesivir if eligible.**

Patients with known renal function of 30-59 ml/min should receive dose-adjusted nirmatrelvir/ritonavir (1 tablet of 150mg nirmatrelvir + 1 tablet of 100mg ritonavir) twice daily for 5 days and such Paxlovid kits are available at pharmacies that carry Paxlovid. Patients with known eGFRs of 60 ml/min or above can receive Paxlovid at a regular unadjusted dose of 300/100 mg nirmatrelvir/ritonavir twice daily for 5 days.

A serum creatinine drawn in the **last 2 years** can be used to guide Paxlovid dosing in patients without end-stage renal disease. Patients without an eGFR result obtained in the last 2 years may be sent for **STAT serum creatinine** at participating LifeLabs (see LifeLabs Appendix). Starting Paxlovid should not be delayed while awaiting SCr results; patients should start Paxlovid at a dose in accordance with their last known renal function and the dose may be modified if the eGFR comes back significantly different than anticipated.

Patients without a serum creatinine drawn in the last 2 years who have no known end-stage renal disease who **are unable to obtain a STAT serum creatinine** may start Paxlovid at a dose in accordance with their last known renal function, or at full dose if no renal disease is anticipated, using clinical judgement. The benefit of preventing severe diseases in such case greatly outweighs the risk of increased exposure to nirmatrelvir/ritonavir. No additional follow-up is required.

Guidance Summary for patients with NO KNOWN end-stage renal disease:

| Renal Function on Patient's Profile                       | Paxlovid Guidance                                                                                                                                                                                                                                  |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Serum Creatinine Results Available</b>                 |                                                                                                                                                                                                                                                    |
| SCr drawn in the last 2 years AND eGFR is ≥ 60 ml/min     | Start Paxlovid at regular dose: 2 tablets nirmatrelvir 150mg (=300mg) + 1 tablet ritonavir 100mg PO BID x 5 days                                                                                                                                   |
| SCr drawn in the last 2 years AND eGFR is 30 to 59 ml/min | Start Paxlovid at a reduced dose: 1 tablet nirmatrelvir 150mg + 1 tablet ritonavir 100mg PO BID x 5 days                                                                                                                                           |
| SCr drawn in the last 2 years AND eGFR is < 30 ml/min     | Do not start Paxlovid. Paxlovid is unlikely to be harmful but sparse dosing data is available. Studies of Paxlovid in end-stage renal disease are ongoing and guidance is forthcoming. Refer for remdesivir if patient meets eligibility criteria. |
|                                                           |                                                                                                                                                                                                                                                    |

### Serum Creatinine Results Not Available

|                                                                                                     |                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No SCr result available on file or SCr drawn more than 2 years ago AND patient cannot draw STAT SCr | Using clinical judgement, start Paxlovid dosed in accordance with the last eGFR available, or at full dose if no previous SCr has ever been drawn.                                                                                                                       |
| SCr drawn more than 2 years ago AND patient can draw STAT SCr                                       | Start Paxlovid dosed in accordance with the last eGFR on file. Send patient to nearest laboratory that performs STAT SCr (see Appendix). Dose adjust Paxlovid once SCr is known according to eGFR for the remaining days of therapy.                                     |
| No SCr result available on file AND patient can draw STAT SCr                                       | Start Paxlovid at regular dose: 2 tablets nirmatrelvir 150mg (=300mg) + 1 tablet ritonavir PO BID. Send patient to nearest laboratory that performs STAT SCr (see Appendix). Dose adjust Paxlovid once SCr is known according to eGFR for the remaining days of therapy. |

### DRUG-DRUG INTERACTIONS and MANAGEMENT

The following drugs interact with nirmatrelvir/ritonavir. Some are **CONTRAINDICATED** (management strategies may be possible. Consult <https://www.covid19-druginteractions.org/checker> before attempting. Drugs that are listed to interact in the monograph but have limited clinical impact are also included.

#### Legend:

**CI-X:** Contraindicated due to serious toxicity or loss of virologic response. Stopping the drug does not mitigate interaction due to prolonged half-life, duration of enzyme induction or is not clinically appropriate due to risk or severity of condition

**CI-M:** Co-administration is contraindicated but management strategies possible (e.g., holding drug or switch)

**DDI-M:** Significant interaction but management strategies possible by prescriber or with expert consultation, or monitor

**OK:** Interaction listed in the monograph, but the interaction has low clinical relevance

**TI:** Therapeutic Index; **T1/2:** Half-life; **AUC:** Area Under Curve (cumulative drug exposure); **↑:** Increase; **↓:** Decrease

**Holding, switching and reducing the dose of interacting medications should occur for the duration of nirmatrelvir/ritonavir treatment and 2 additional days after treatment finishes (for a total of 7 days).**

| Drug                 | Drug Interaction Type, Information and Management Strategy |                                                                                                    |
|----------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Abemaciclib          | DDI-M                                                      | Oral anticancer agent. ↑'ed abemaciclib levels. Dose ↓ to 100mg BID w/ BCCA consultation           |
| Alfuzosin            | CI-M                                                       | ↑↑ hypotension. If appropriate, hold drug; restart 2 days after finishing treatment                |
| Almotriptan          | DDI-M                                                      | ↑↑'ed levels. For migraines, use 6.25mg max dose, up to 12.5mg/24h period                          |
| Alprazolam           | DDI-M                                                      | ↑↑'ed AUC by 2-5X. If appropriate, hold drug or significantly ↓ dose                               |
| <b>ANTIDIABETICS</b> | DDI-M                                                      | No drug level changes but hypoglycemia has been observed. Pt should self-monitor Sx and BG         |
| Amiodarone           | CI-M                                                       | ↑↑'ed amiodarone levels. Prolonged T1/2 and narrow TI; could consider hold w/ consultation         |
| Amitriptyline        | OK                                                         | Small ↑ in amitriptyline levels. Likely sub-clinical. Caution those sensitive to ADRs              |
| Amlodipine           | DDI-M                                                      | ↑'ed AUC by 2X. If BP <130, ↓ dose by 50% during treatment and restart 3 days after finishing      |
| Apalutamide          | CI-X                                                       | Oral cancer agent. ↑'ed levels leading to seizures. Also an enzyme inducer                         |
| <b>Apixaban</b>      | DDI-M                                                      | ↑'ed levels of apixaban; ↑ bleeding. Can ↓ to 2.5mg BID or switch to dabigatran. <b>*See notes</b> |
| Aripiprazole         | DDI-M                                                      | ↑'ed AUC by 2X. For oral, ↓ dose by 50%; Injectable does not interact                              |

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| Artesunate       | DDI-M | ↑'ed AUC by 25%. ↓ dose by 25% w/ infectious diseases consultation                                      |
| Atazanavir       | OK    | ↑'ed levels but not altering therapy is recommended. Caution those sensitive to ADRs                    |
| Atorvastatin     | DDI-M | ↑'ed levels. Hold atorvastatin during treatment and restart 2 days after finishing                      |
| Atovaquone       | DDI-M | ↓'ed levels by 30-70%. Significance is minimal for prophylaxis. ↑ dose for treatment                    |
| Betamethasone    | OK    | Small ↑ in betamethasone levels. Likely sub-clinical especially with inhaled/topical                    |
| Bictagravir      | OK    | Small ↑ in levels of bictagravir, likely not clinically relevant; caution those sensitive to ADRs       |
| Bosentan         | CI-X  | Endothelin receptor agonist. ↑ bosentan levels. Prolonged T1/2 prohibits holding drug                   |
| Bromazepam       | OK    | Small ↑ in bromazepam levels. Likely sub-clinical. Caution those sensitive to ADRs                      |
| Budesonide       | OK    | Small ↑ in budesonide levels. Likely sub-clinical especially with inhaled/topical                       |
| Bupropion        | OK    | ↓'ed bupropion levels; delayed interaction; due to short duration of Rx, likely OK                      |
| Buspirone        | DDI-M | ↑'ed levels; reduce dose to 2.5mg BID during treatment and for 2 days after finishing                   |
| Bromocriptine    | DDI-M | ↑'ed levels; reduce dose by 50% during Rx and for 2 days after finishing and monitor for ADRs           |
| Buprenorphine    | OK    | ↑'ed AUC by ~40%; however, did not change PK in opioid-tolerant patients. Monitor                       |
| Cabotegravir     | OK    | UGT1A1 induction leads to small ↓ in cabotegravir levels but not clinically relevant                    |
| Canagliflozin    | DDI-M | ↓'ed canagliflozin levels due to UGT1A1 induction; delayed DDI; monitor sugars                          |
| Cannabis         | DDI-M | ↑'ed levels of certain metabolite; caution users                                                        |
| Carbamazepine    | CI-X  | Prolonged enzyme induction; ↓↓ levels of nirmatrelvir/ritonavir                                         |
| Ceritinib        | DDI-M | Oral anticancer drug. ↑'ed levels of ceritinib. Reduce dose by 1/3 <sup>rd</sup> with BCCA consultation |
| Ciclesonide      | OK    | ↑'ed AUC and Cmax but not clinically relevant as absorbed in the lungs/nasal passages                   |
| Cisapride        | CI-M  | ↑↑'ed levels of cisapride leading to cardiac arrhythmias. Hold drug if appropriate                      |
| Chlordiazepoxide | DDI-M | ↑'ed chlordiazepoxide levels; no guidance exists; use caution                                           |
| Clarithromycin   | DDI-M | Small ↑'ed levels; not clinically significant if eGFR≥60ml/min. ↓ by 50% if <60ml/min                   |
| Clomipramine     | DDI-M | ↑'ed levels of active metabolite; may prolong QTc; do not use of dose > 150mg/d                         |
| Clonazepam       | DDI-M | ↑'ed levels of clonazepam; data lacking; ↓ dose by 25-50% if appropriate and/or monitor                 |
| Clopidogrel      | CI-M  | no antiplatelet activity in >40% pts; do not coadminister if high risk of clots; √ if OK w/ specialist  |
| Clorazepate      | DDI-M | ↑'ed levels of clorazepate; data lacking; ↓ dose by 25-50% if appropriate and/or monitor                |
| Clozapine        | CI-X  | ↑'ed AUC of clozapine and ADRs; difficult to adjust as narrow TI                                        |
| Cobicistat       | DDI-M | Bi-directional DDI; ↑'ed levels of both drugs, but not altering therapy is recommended                  |
| Colchicine       | CI-M  | ↑'ed colchicine levels; hold in renal impairment; use 0.6mg/day max if normal eGFR                      |
| Cyclosporine     | CI-M  | ↑'ed cyclosporine levels by 25%; narrow TI & requires TDM; consult transplant team                      |
| Codeine          | OK    | Small ↓ in conversion to morphine from codeine and ↓ analgesic effect                                   |
| Darunavir        | OK    | ↑'ed levels but not altering therapy is recommended. Caution those sensitive to ADRs                    |
| Dasatinib        | DDI-M | Oral anticancer drug; complex dose adjustments - consult Lexicomp; consult BCCA                         |
| Desimipramine    | DDI-M | ↑'ed AUC of desimipramine; caution those sensitive to ADRs                                              |
| Dexamethasone    | OK    | If used in low doses (e.g., for nausea), likely not clinically significant if ≤ 12mg/d                  |

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| Diazepam          | DDI-M | Conflicting data; likely ↑'ed sedation; caution patients; ↓ dose in elderly                     |
| Digoxin           | CI-M  | ↑'ed digoxin levels; narrow TI; 50% dose ↓ or hold; TDM may be required; consult pharmacy       |
| Dihydroergotamine | CI-M  | Egot toxicity like vasospasm and tissue ischemia; hold PRN drug                                 |
| Diltiazem         | DDI-M | ↑'ed diltiazem levels; dose ↓ by 25-50% is recommended if BP <130 or HR <60; monitor            |
| Disopyramidine    | CI-X  | ↑'ed disopyramidine levels; ↑'ed arrhythmia; narrow TI; prolonged effect                        |
| Divalproex        | OK    | ↓'ed divalproex levels but delayed DDI and due to short duration likely insignificant           |
| Domperidone       | CI-M  | ↑'ed arrhythmia; hold if clinically appropriate; restart 2 days after finishing                 |
| Doxorubicin       | CI-M  | Liposomal doxorubicin OK; if conventional consult BCCA if doses due during Rx                   |
| Doxazosin         | DDI-M | Small ↑ in AUC of doxazosin; caution those sensitive to ADRs                                    |
| Dronedarone       | CI-X  | ↑↑'ed [dronedarone]. Prolonged T1/2 and narrow TI; could consider hold w/ consultation          |
| Dutasteride       | OK    | ↑'ed AUC of dutasteride by 30-40%; clinical significance likely small                           |
| Edoxaban          | DDI-M | ↑'ed levels of edoxaban; one source states ↓ to 30mg; another says just monitor                 |
| Efavirenz         | OK    | Small ↑ in efavirenz levels; likely insignificant due to short duration of Rx; caution re: ADRs |
| Elagolix          | DDI-M | ↑'ed elagolix AUC; ↑ suicidality and hepatitis; use 150mg/day max while on Rx                   |
| Elbasvir          | CI-X  | ↑'ed risk of transaminitis; also ↑'ed levels of grazoprevir; Consult ID or GI                   |
| Eletriptan        | CI-M  | ↑'ed levels of eletriptan by 3-6X; hold PRN drug                                                |
| Encorafenib       | CI-M  | Oral cancer agent; ↑'ed encorafenib levels; ↑ QTc; consult BCCA if holding is OK                |
| Enzalutamide      | CI-X  | Oral anti-androgen for prostate cancer; bidirectional DDI                                       |
| Eplerenone        | CI-M  | ↑↑'ed K levels; Could consider hold w/ consultation if clinically appropriate                   |
| Ergotamine        | CI-M  | Egot toxicity like vasospasm and tissue ischemia; do not coadminister; hold PRN drug            |
| Eslicarbazepine   | CI-X  | Like carbamazepine; Prolonged enzyme induction; ↓↓ levels of nirmatrelvir/r                     |
| Estazolam         | DDI-M | ↑'ed levels of estazolam; data lacking; caution if sensitive to sedation                        |
| Ethinyl Estradiol | DDI-M | ↓'ed contraceptive levels; use back-up contraception while on Rx and for rest of cycle          |
| Everolimus        | CI-M  | ↑'ed AUCs by 15X and Cmax by 4X; consult transplant team if holding OK; TDM difficult           |
| Felodipine        | CI-M  | ↑'ed AUC by several-fold; If BP<130 ↓ dose by 75%; resume normal dose 2 days after Rx           |
| Fentanyl          | CI-M  | ↑↑'ed levels of fentanyl; ↑'ed risk of resp depression; avoid use; counsel opioid users         |
| Fusicidic Acid    | CI-M  | Systemic only; ↑'ed risk of hepatitis; do not coadminister                                      |
| Flecainide        | CI-X  | Fatal arrhythmias possible; stopping drug may be difficult; consult expert if holding is OK     |
| Fluoxetine        | OK    | Small ↑ in fluoxetine levels; caution those sensitive to ADRs                                   |
| Fluticasone inh.  | DDI-M | Conflicting resources; Some state ↑'ed HPA suppression after 7 d; hold if appropriate           |
| Flurazepam        | DDI-M | ↑'ed levels of flurazepam; data lacking; ↓ dose by 25-50% if appropriate and/or monitor         |
| Fluvoxamine       | OK    | Small ↑ in fluvoxamine levels; caution those sensitive to ADRs                                  |
| Fostamatinib      | DDI-M | ITP drug; ↑'ed AUC y 2X; decrease dose by 50% in consultation with hematologist                 |
| Haloperidol       | DDI-M | Complex interaction; consult reference; monitoring for ADRs is recommended                      |
| Hydrocodone       | DDI-M | Mixed interaction; some metabolites ↑, some ↓; monitor for sedation                             |

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| Hydroxychloroquine | DDI-M | ↑'ed levels of hydroxychloroquine may ↑ risk of QTc prolongation; hold if at risk of TdP   |
| Ibrutinib          | CI-M  | Oral anticancer drug; ↑'ed risk for tumor lysis syndrome; consult BCCA if holding OK       |
| Imipramine         | OK    | Small ↑ in imipramine levels; caution those sensitive to ADRs                              |
| Itraconazole       | DDI-M | ↑'ed levels of itraconazole by 40%. Use 200mg/day max while on Rx                          |
| Ivabradine         | CI-M  | ↑'ed levels of ivabradine and bradycardia. Consult expert if holding is OK                 |
| Ketoconazole       | DDI-M | ↑'ed levels of ketoconazole. Use 200mg/day max while on Rx                                 |
| Letermovir         | CI-M  | CMV drug; ↑'ed levels 2-fold; consult ID or transplant if management is possible           |
| Larotrectinib      | CI-M  | Oral anticancer drug; ↓ larotrectinib dose by 50% in consultation with BCCA                |
| Lidocaine          | DDI-M | IM and IV lidocaine levels may not be adequate; titrate to effect                          |
| Lomitapide         | CI-M  | Cholesterol medication; large ↑ in levels; hepatotoxicity possible; hold drug              |
| Lopinavir          | OK    | ↑'ed levels but not altering therapy is recommended. Caution re: ADRs                      |
| Lovastatin         | CI-M  | ↑ in levels of lovastatin; rhabdomyolysis possible; hold drug, restart 2 days after Rx     |
| Lurasidone         | CI-X  | ↑'ed levels by multi-fold. Switching likely clinically not feasible                        |
| Macitentan         | CI-M  | PAH drug; ↑'ed levels by >2-fold; consult resp/cardiology if ↓ dose (cutting tablet) is OK |
| Maraviroc          | DDI-M | ↑'ed levels of maraviroc. Could dose ↓ to 150mg BID; consult HIV pharmacist at BCCfE       |
| Mexilitine         | DDI-M | Small ↑ in mexilitine levels; no dose change but monitor, especially for CNS side effects  |
| Meperidine         | DDI-M | ↑'ed levels by ~50%; decrease dose and monitor for ADRs                                    |
| Methadone          | DDI-M | ↓'ed levels of methadone by 20-40%; may be clinically OK; delayed DDI; monitor             |
| Methamphetamine    | DDI-M | Small ↑ in serum levels of methamphetamine; caution methamphetamine users                  |
| Methylergonovine   | CI-M  | Egot toxicity like vasospasm and tissue ischemia; do not coadminister; hold PRN drug       |
| Midazolam          | CI-M  | ↑↑'ed risk of extreme sedation. Hold if clinically appropriate; restart 2 days after Rx    |
| Mirtazapine        | DDI-M | ↑'ed mirtazapine levels by ~50%. Caution with low doses; ↓ dose if > 15mg due to QTc       |
| Modafinil          | DDI-M | Inducer. Small ↓ in nirmatrelvir/r levels. Likely not significant unless dose is high      |
| Morphine           | DDI-M | Mixed interaction; some metabolites ↑ while some ↓; monitor for toxicity/efficacy          |
| Nadolol            | DDI-M | ↑'ed Cmax but no effect on AUC; no dose change but monitor ADRs; caution w/ high doses     |
| Neratinib          | CI-M  | Oral cancer drug. Potential for serious hepatotoxicity. Consult BCCA if holding OK         |
| Nicardipine        | DDI-M | ↑'ed nicardipine levels; hypotension, flushing, edema; ↓ dose 25-50% if >60mg/d            |
| Nifedipine         | CI-M  | Large ↑ in nifedipine levels and cardiac clinical effects; hold if appropriate             |
| Nilotinib          | CI-M  | Oral cancer agent; ↑'ed nilotinib levels and QTc; Hold in consultation w/ BCCA             |
| Nitrazepam         | DDI-M | ↑'ed levels of nitrazepam; data lacking; ↓ dose if appropriate and/or monitor              |
| Nortriptyline      | OK    | Small ↑ levels of nortriptyline; clinically insignificant; caution those sensitive to ADRs |
| Olanzapine         | OK    | Small delayed ↓ in levels of olanzapine; likely clinically insignificant                   |
| Oxcarbazepine      | CI-X  | Prolonged enzyme induction; ↓ levels of nirmatrelvir/ritonavir; do not coadminister        |
| Oxybutynin         | DDI-M | ↑'ed levels of oxybutynin by ~50%; if high dose, consider ↓; caution for ADRs              |
| Oxycodone          | DDI-M | ↑'ed levels of oxycodone and metabolites 1.5-2.5-fold. Consider dose ↓; caution pt of ADRs |

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| Paclitaxel       | DDI-M | IV cancer drug; ↑'ed levels of paclitaxel 2-fold; consult BCCA if dose ↓ OK                      |
| Paliperidone     | OK    | Small potential ↑ in paliperidone levels; likely not clinically significant                      |
| Paroxetine       | OK    | Small ↑ in paroxetine levels. Likely sub-clinical. Caution those sensitive to ADRs               |
| Perphenazine     | OK    | Small ↑ in perphenazine levels. Likely sub-clinical. Caution those sensitive to ADRs             |
| Phenobarbital    | CI-X  | Prolonged enzyme induction; ↓ levels of nirmatrelvir/ritonavir; do not coadminister              |
| Phenytoin        | CI-X  | Prolonged enzyme induction; ↓ levels of nirmatrelvir/ritonavir; do not coadminister              |
| Pimozide         | CI-X  | ↑'ed levels of pimozide & arrhythmias; do not coadminister; holding not appropriate              |
| Primidone        | CI-X  | Prolonged enzyme induction; ↓ levels of nirmatrelvir/ritonavir; do not coadminister              |
| Prednisolone     | OK    | Small/no ↑'ed steroid levels but RX is short term and likely not clinically significant          |
| Prednisone       | OK    | ↑'ed in levels of 20-30% of steroid but RX is short term and likely not clinically significant   |
| Propafenone      | CI-X  | ↑'ed levels of propafenone & arrhythmias; holding not appropriate                                |
| Quetiapine       | DDI-M | Large ↑ in quetiapine levels; ↓ dose to 1/6th in consultation with specialist; hold if for sleep |
| Quinidine        | DDI-X | ↑'ed levels of quinidine & arrhythmias; do not coadminister; holding not appropriate             |
| Quinine          | CI-M  | Inconsistent data; very large ↓ and ↑ shown; do not coadminister; hold if appropriate            |
| Ranolazine       | CI-M  | Antianginal for SX only; potential life-threatening reactions; do not coadminister; can hold     |
| Repaglinide      | DDI-M | ↑'ed hypoglycemic effect; counsel to monitor sugar; may ↓ dose by 50% at meals PRN               |
| Rifabutin        | DDI-M | ↑'ed rifabutin AUC by 25-40%; dose reduce in consultation with ID or respiratory, as needed      |
| Rifampin         | CI-X  | Potent enzyme inducer, prolonged DDI; ↓'ed levels of nirmatrelvir/r; do not coadminister         |
| Rifapentine      | CI-X  | Potent enzyme inducer, prolonged DDI; ↓'ed levels of nirmatrelvir/r; do not coadminister         |
| Rilpivirine      | OK    | ↑'ed levels of rilpivirine by ~20-50%; likely not clinically significant; caution re: ADRs       |
| Ritonavir        | OK    | Patients taking ritonavir-containing HIV regimens should continue their therapy as is            |
| Risperidone      | DD-M  | ↑'ed risperidone levels leading to ADRs; ↓ dose by 50% if appropriate; can consult specialist    |
| Rivaroxaban      | CI-M  | ↑'ed levels of DOAC and ↑ bleeding risk. Can consider switch to dabigatran <b>*See notes</b>     |
| Rosuvastatin     | DDI-M | ↑'ed levels of rosuvastatin; hold drug during Rx and resume 2 days later                         |
| Ruxolitinib      | DDI-M | For polycythemia vera; ↑'ed levels 2-fold; consult hematologist to dose reduce by 50%            |
| Salmeterol       | CI-M  | ↑'ed ADRs like palpitations and ↑ QTc; do not stop if resp SX; can consider salbutamol           |
| Saxagliptin      | DDI-M | ↑'ed hypoglycemic effect; monitor or use 2.5mg/d during Rx and for 2 days after                  |
| Sertraline       | OK    | Small ↑ in sertraline levels. Likely sub-clinical. Caution those sensitive to ADRs               |
| Sildenafil (ED)  | CI-M  | Large ↑ in levels. Hold while on nirmatrelvir/ritonavir, can restart 2 days after Rx finishes    |
| Sildenafil (PAH) | CI-X  | ↑'ed risk for severe hypotension, syncope, visual changes; stopping likely not appropriate       |
| Silodosin        | DDI-M | For BPH; large ↑ 3-4X in silodosin levels; hold if appropriate or ↓ dose by 75%                  |
| Simvastatin      | CI-M  | ↑ in levels of simvastatin; rhabdomyolysis possible; hold drug, restart 2 days after Rx          |
| Sirolimus        | CI-M  | ↑'ed AUCs by 10X and Cmax by 4X; consult transplant team if holding OK; TDM difficult            |
| St. John's Wort  | CI-X  | Prolonged enzyme induction; ↓'ed levels of nirmatrelvir/r. Long lasting DDI                      |
| Sufentanil       | DDI-M | ↑'ed AUC of sufentanil by ~50% and risk of respiratory depression; use lower PRN doses           |

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| Sunitinib        | CI-M  | Oral cancer drug; ↑'ed levels of sunitinib by 50% and toxicity; consult BCCA if holding OK       |
| Tacrolimus       | CI-M  | ↑'ed AUCs by 10X and Cmax by 4X; consult transplant team if holding OK; TDM difficult            |
| Tadalafil (ED)   | CI-M  | Large ↑ in levels. Hold while on nirmatrelvir/ritonavir, can restart 2 days after Rx finishes    |
| Tadalafil (PAH)  | CI-X  | ↑'ed risk for severe hypotension, syncope, visual changes; stopping likely not appropriate       |
| Tamsulosin       | DDI-M | ↑'ed tamsulosin levels by 2-3-fold but no BP changes were observed; caution pt and monitor       |
| Tenofovir        | OK    | Slight ↑ in levels; likely clinically insignificant due to duration of Rx                        |
| Ticagrelor       | CI-M  | ↑'ed bleeding risk; holding not appropriate unless thrombosis risk low; consult cardiology       |
| Tofacitinib      | DDI-M | ↑'ed tofacitinib levels; ↓ dose by 50% (from 10mg to 5mg or from BID to QD) during Rx            |
| Tolterodine      | DDI-M | ↑'ed levels by 2-fold and ADRs; use 2mg/day max while on Rx and for 2 d after stopping           |
| Tramadol         | DDI-M | Mixed interaction; some metabolites ↑, some ↓; caution pt re: ADRs                               |
| Trazadone        | DDI-M | ↑'ed levels of trazadone by 2-fold; dose reduce by 50% if over 150mg/d; can hold for sleep       |
| Triazolam        | CI-M  | ↑'ed risk for sedation; hold if clinically appropriate and restart 2d after RX; watch withdrawal |
| Upadacitinib     | DDI-M | Oral cancer agent; ↑'ed upadacitinib levels; >15mg/d is not recommended; consult w/ BCCA         |
| Valproate        | OK    | Potential ↓ in valproate levels, delayed; likely not clinically relevant due to short Rx         |
| Vardenafil (ED)  | CI-M  | Large ↑ in levels. Hold while on nirmatrelvir/ritonavir, can restart 2 days after Rx             |
| Vardenafil (PAH) | CI-X  | ↑'ed risk for severe hypotension, syncope, visual changes; stopping likely not appropriate       |
| Venetoclax       | CI-X  | Oral cancer drug; ↑'ed levels; CI during ramp-up phase; consult BCCA to V phase & ↓ dose         |
| Venlafaxine      | OK    | Small ↑ in venlafaxine levels. Likely sub-clinical. Caution those sensitive to ADRs              |
| Verapamil        | DDI-M | ↑'ed verapamil levels but resources inconsistent; Monitor for dizziness, low BP and low pulse    |
| Vincristine      | DDI-M | ↑'ed toxicity like GI, neurotoxicity and marrow suppression consult BCCA if coadministering      |
| Vinblastine      | DDI-M | ↑'ed toxicity like GI, neurotoxicity and marrow suppression consult BCCA if coadministering      |
| Voriconazole     | DDI-M | ↓'ed voriconazole levels; consult ID/Resp if clinically acceptable or if TDM is required         |
| Warfarin         | DDI-M | Mixed DDI; net effect is a ↓ in INR; monitor INR if possible, especially if high for thrombosis  |
| Ziprasidone      | DDI-M | ↑'ed levels of ziprasidone by 30-40%; use with caution and monitor for ADRs                      |
| Zolpidem         | DDI-M | ↑'ed risk for sedation; decrease dose by 50% or hold if PRN for sleep                            |
| Zopiclone        | DDI-M | ↑'ed risk for sedation; use max dose of 3.75mg/d or hold if PRN for sleep                        |

### DOACs: Rivaroxaban and Apixaban: STEP BY STEP INSTRUCTIONS

**Rivaroxaban and Apixaban** are two of the most common drugs that have drug-drug interactions with nirmatrelvir/ritonavir. Both can be switched to dabigatran. Apixaban can also be dose reduced. Please see notes below pertaining to patients with Cancer-associated Thrombosis (CAT).

#### Apixaban and Rivaroxaban Management



|                           |                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------|
| If on apixaban 2.5 mg BID | Continue unmodified.<br><b>Can only be considered if no bleeding event in the last 3 months</b> |
|---------------------------|-------------------------------------------------------------------------------------------------|



|                                                                                                                                                                                                          |                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If on apixaban 5 mg BID                                                                                                                                                                                  | Decrease dose to 2.5 mg BID. Patient may cut 5mg tablets in half. Resume apixaban 5mg BID 2 days after Paxlovid ends.<br><b>Can be considered if no thrombotic event (stroke or VTE) within the past 3 months</b> |
| If taking apixaban for a thrombotic event that has occurred within the past 3 months or has experienced a recent bleeding event in the past 3 months, <b>DO NOT CO-ADMINISTER. Switch to dabigatran.</b> |                                                                                                                                                                                                                   |
| Rivaroxaban                                                                                                                                                                                              | <b>DO NOT CO-ADMINISTER. Switch to dabigatran.</b>                                                                                                                                                                |

**Switching to Dabigatran – SPECIAL AUTHORITY REQUIRED**

*The switch should only be attempted for patients who can follow clear directions, who can fill the dabigatran prescription and who will be amenable to follow-up by a pharmacist by phone. Provide clear counselling AND have the patient repeat the directions back. Ensure patient understands that they will NOT take dabigatran with their current DOAC at the same time. Describe/show them the tablets they are to hold.*

|                                                                                                                                     |                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Apixaban 5mg is a peach oblong tablet. Apixaban 2.5mg is a round yellow tablet.                                                     | Rivaroxaban tablets are peach (10mg), orange (15mg) and brown (20mg)                                                                                      |
|  <p>Eliquis® (apixaban) Recall Lot HN0063 ...</p> |  <p>Rivaroxaban 10mg      Rivaroxaban 15mg</p> <p>Rivaroxaban 20mg</p> |

**TO PRESCRIBE:**

1. Give the patient a new prescription for dabigatran, dosed according to their eGFR/age/current DOAC dose for 7 days (patients can be switched for up to 10 days and Special Authority approval last for 10 days, but recent data show that 7 days is sufficient. Patients take dabigatran during the 5-day Paxlovid treatment and for 2 days after Paxlovid ends as the enzyme inhibition reverses.)
2. State to hold rivaroxaban or apixaban for the 7 days while taking the dabigatran prescription.
3. Specify on the Paxlovid prescription that this change is being implemented. The pharmacist dispensing Paxlovid will phone the patient to follow-up to ensure the directions are being followed and to remind

them to switch back.

4. Fill out Special Authority using eForm. Select “Other” as the reason and choose Paxlovid DDI. If you are not set up for eForm, call Pharmacare directly and apply for SA over the phone. Do not fax the form as it will not be processed in a timely manner. See Appendix on how to do this.
5. If you have doubts that the patient will not follow these directions, do not prescribe Paxlovid.

**Dosing of Dabigatran is based on dose of Apixaban, Rivaroxaban, Age and/or eGFR**

If the patient is already on dose reduced apixaban (2.5 mg BID) or rivaroxaban 10 or 15mg once daily), switch to dabigatran 110 mg BID.

Do not co-administer dabigatran and Paxlovid with other anticoagulants (e.g., warfarin) or NSAIDs. Low-dose ASA can be continued.

Dabigatran dosing for those on regularly dosed apixaban and rivaroxaban:

| If eGFR or renal function available: |                        |
|--------------------------------------|------------------------|
| eGFR $\geq$ 50                       | dabigatran 150 mg BID. |
| eGFR 30-49                           | dabigatran 110 mg BID. |
| eGFR <30                             | do not use dabigatran. |

| If eGFR or renal function unknown: |                        |
|------------------------------------|------------------------|
| age < 75                           | dabigatran 150 mg BID. |
| age $\geq$ 75                      | dabigatran 110 mg BID. |

**Note on patients with Cancer-associated Thrombosis who are receiving rivaroxaban or apixaban:**

- Lowering the dose of apixaban from 5mg BID to 2.5mg BID is an option providing the patient has not had CAT in the past 3 months.
- Dabigatran remains an option as above, but evidence for its use in CAT is limited. Most guidelines do not recommend using dabigatran for treatment of CAT. It seems reasonable to substitute for a short period of time, but once treatment with nirmatrelvir/ritonavir is complete, the patient *must* return to apixaban or rivaroxaban
- A switch to edoxaban is also an option; however, edoxaban is not covered by PharmaCare. Its cost is approximately \$3/day. The usual dose of edoxaban is 60mg PO daily; it should be reduced to 30mg PO daily in those with eGFR between 30-50ml/min, those weighing less than 60kg, those taking potent p-gp inhibitors, or in those with high risk of bleeding as there is a very modest interaction between edoxaban and nirmatrelvir/ritonavir as with dabigatran.
- LMWH (approx. \$30/day) may also be an option if patients have used injections before and are comfortable with switching. Injection teaching is challenging when patients must self-isolate; this option is for experienced patients only.
- Holding anticoagulation while on nirmatrelvir/ritonavir is possible if the risk/benefit ration is favourable. This can be considered if the patient is beyond 6 months since thrombotic event.
- As with all patients who cannot manage drug-drug interaction from nirmatrelvir/ritonavir, consider

remdesivir if patients are at higher risk for breakthrough CAT.

**This tool will be updated regularly**

## Appendix: PharmaCare Special Authority for Dabigatran during Paxlovid Therapy

**Purpose:** This document is intended to describe the steps taken to apply for Special Authority of dabigatran. This document does not describe the drug-drug interaction between DOACs and nirmatrelvir/ritonavir (Paxlovid), nor does it provide any clinical guidance.

**Situation:** A drug-drug interaction is identified between the patient’s DOAC and nirmatrelvir/ritonavir (Paxlovid). Switching the patients DOAC to dabigatran is identified as necessary. Dabigatran is a Limited Benefit drug through PharmaCare and Special Authority is required to obtain coverage.

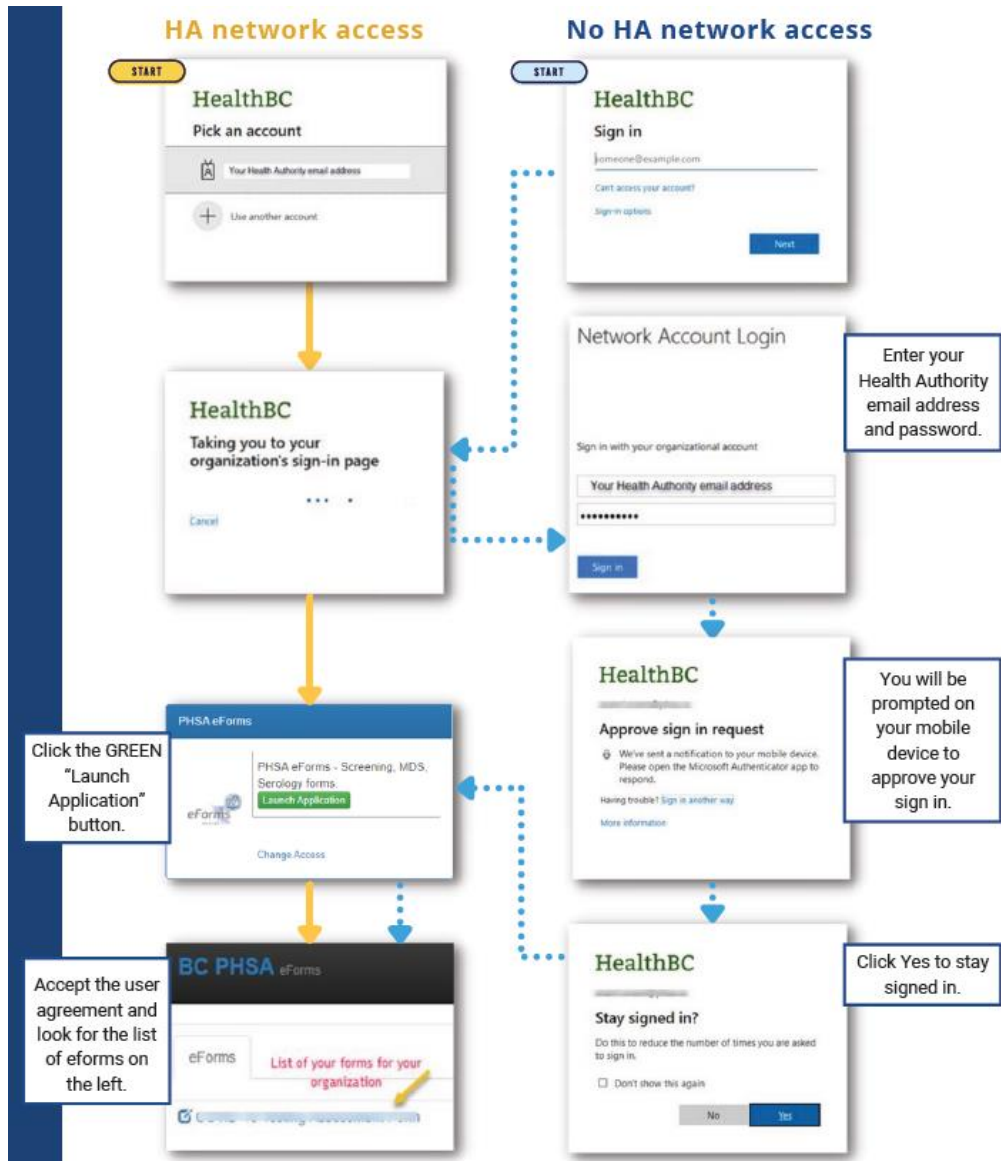
Please note: Actual reimbursement is dependent upon a patients PharmaCare plan including any deductibles even if Special Authority is approved.

### Process:

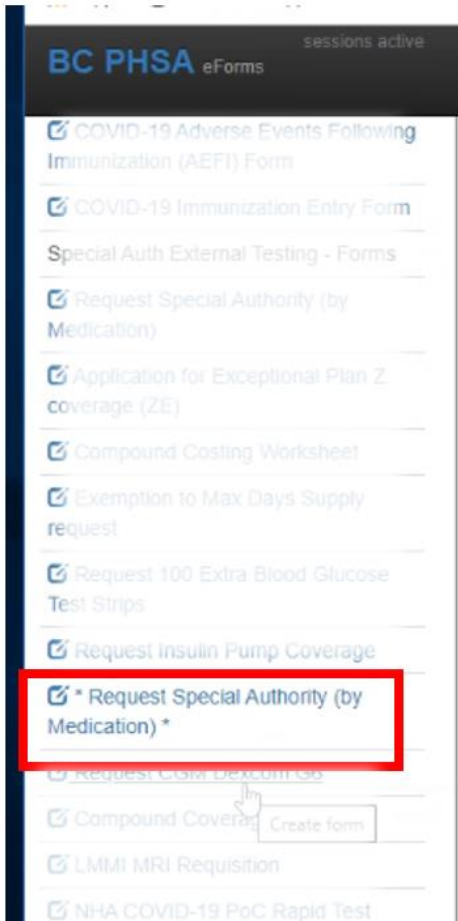
1. **Please send a prescription for dabigatran to the patient’s regular community pharmacy.**  
This may be different than the pharmacy used to dispense nirmatrelvir/ritonavir (Paxlovid)



2. Login to eForms through <https://www.eforms.phsaehealth.ca> on your Health Authority network or through VPN



3. On the left-hand side, **select 'Request Special Authority (by medication)'** from the list of eForms



4. Search for the Patient by First Name, Last Name or PHN
5. Search for the Provider by First Name, Last Name or CPSID

6. Patient information should auto-fill on the left-hand side.

Expand the prescriber information on the right-hand side and enter the fax number.

1. Complete Patient and Prescriber details:

Patient Information
  Prescriber Information

Expand Prescriber Information panel to ensure all mandatory fields are complete

7. Using the drop down/ search function, select **'dabigatran 110 mg, 150 mg'**

2. Select from the list of Limited Coverage medications below:

If the required medication or formulation is not in this list, select "other" and provide further details.

Select medication: \*

dabigatran 110mg, 150mg

8. Under Special Authority Criteria, select **'Other, including as an alternative to other DOACs for use with Paxlovid'**

3. Special Authority Criteria:

Patient has a diagnosis of non-valvular atrial fibrillation (patient does NOT have hemodynamically significant rheumatic valvular heart disease, especially mitral stenosis, or prosthetic heart valves), AND at least one CHADS2 related risk factor identified below. For patients 75 years of age or older renal function has been adequate as well as stable for at least 3 months<sup>1</sup>. \*

<sup>1</sup> Documented stable renal function is defined as creatinine clearance or estimated glomerular filtration rate maintained for at least 3 months (i.e., 30-49 mL/min for 110 mg twice daily dosing or ≥ 50 mL/min for 150 mg twice daily dosing).

Other, including as an alternative to other DOAC for use with Paxlovid (provide details):

9. Under this section, select **'Patient is currently on a DOAC that interacts with Paxlovid. Dabigatran will be co-administered with Paxlovid for up to 10 days. Maximum coverage is 10 days.'**

Other, including as an alternative to other DOAC for use with Paxlovid (provide details):

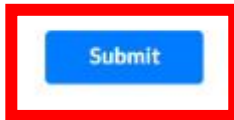
Patient is currently on a DOAC that interacts with Paxlovid. Dabigatran will be co-administered with Paxlovid for 10 days. Maximum coverage is 10 days.

Other (provide details):

10. Additional Comments are not required.  
**Click 'Submit'**

4. Additional Comments: (optional)

Additional Comments (optional):



11. You will receive a response stating that SA has received your request and the coverage decision will be sent to the fax number entered on the eForm.  
**Please note that for this indication, SA approval is done automatically at any time of day or night**, however the fax may be delayed.

Ref.No.: 59e5eae2-e889-4967-b02f-ac09beeee06d9 - Special Authority (SA) has received your request. Your Special Authority reference number is 00019266. The coverage decision will be sent to the fax number entered on the eForm. Patients can view the status of the SA request on their Health Gateway profile.





July 18, 2022

# BC Health Care Provider Bulletin

## INSTRUCTIONS FOR ORDERING LABORATORY TESTING REQUIRED FOR COVID TREATMENT

For patients that require urgent laboratory testing for COVID treatment please follow the steps below to ensure timely access to test results.

### For Healthcare Providers

- 1) Indicate “**STAT/URGENT**” clearly at the top of the requisition
- 2) Email requisition to [PSCREQSBC@LifeLabs.com](mailto:PSCREQSBC@LifeLabs.com) (Please only use this email for STAT/Urgent testing requests)
- 3) Use patient’s first name and last name as the subject line (Note: **do not** include any SIN numbers, health card numbers, or credit card information). The requisition will be able to be retrieved by lab staff after 1hr of being sent
- 4) Optional: Send copy of the requisition to patient’s personal email address so the patient can provide LifeLabs with a copy in the event we cannot retrieve the requisition
- 5) Direct patient to a non-appointment centre LifeLabs location (please refer to list provided). Alternatively, the patient can visit LifeLabs Location Finder feature at <https://locations.lifelabs.com/locationfinder>. Please instruct patient to notify staff they are COVID positive and require urgent testing for treatment

### For patients

- 1) Please visit a non-appointment centre LifeLabs location (please refer to list provided). Alternatively, please visit LifeLabs Location Finder feature at <https://locations.lifelabs.com/locationfinder>
- 2) Upon checking-in, please notify staff you are COVID-19 positive and that you require urgent lab testing for treatment. LifeLabs staff have procedures for safely collecting from COVID-19 positive patients
- 3) Notify LifeLabs team member that your requisition was emailed to [PSCREQSBC@LifeLabs.com](mailto:PSCREQSBC@LifeLabs.com) and when it was sent by the healthcare provider

Patients can continue to book appointments at our Appointment Centres if needed. Thank you for your patience and cooperation.

*Disclaimer: LifeLabs is accepting requisitions via email to support our patients who present to a Patient Service Centre with an electronic requisition. There is a risk of inappropriate disclosure when emailing a requisition from a public email domain. The patient is responsible for the security of the electronic copy of the requisition when it is on their mobile device or when it is emailed from the patient’s public email domain to LifeLabs. LifeLabs will maintain the security of the requisition when it is received by LifeLabs.*

## LifeLabs Patient Service Centres Serving Walk-in Patients (Non-Appointment Centres)

Please use the LifeLabs Location Finder feature for the most updated list

| City             | Address                          | LifeLabs PSC Name |
|------------------|----------------------------------|-------------------|
| Abbotsford       | A8 - 33498 Bevan Ave             | Abbotsford        |
| Abbotsford       | 207-2825 Clearbrook Rd           | Clearbrook        |
| Aldergrove       | 610 - 26310 Fraser Hwy           | Aldergrove        |
| Burnaby          | 104 - 7885 6th St                | Burnaby Square    |
| Burnaby          | 201-4980 Kingsway                | Metrotown         |
| Burnaby          | 103 - 4012 Hastings St           | Norburn           |
| Campbell River   | Unit #B-5B - 465 Merecroft Rd    | Campbell River    |
| Chilliwack       | 608 - 8236 Eagle Landing Parkway | Chilliwack        |
| Coquitlam        | 106 - 1015 Austin Ave            | Austin            |
| Coquitlam        | 208 - 3001 Gordon Ave            | Gordon            |
| Courtenay        | 12 - 1599 Cliffe Ave             | Courtenay         |
| Dawson Creek     | 2 - 705 103 Ave                  | Dawson Creek      |
| Delta            | 104-4515 Harvest Dr              | Ladner            |
| Delta            | 122 - 6345 - 120 St              | Sunwood           |
| Duncan           | 208 - 2763 Beverly St            | Beverly           |
| Duncan           | 102 - 149 Ingram St              | Ingram            |
| Gabriola         | 101 - 691 Church St              | Gabriola          |
| Gibsons          | 118 - 1100 Sunshine Coast Hwy    | Gibsons           |
| Kamloops         | 1966 Harrison Way                | Harrison Way      |
| Kamloops         | 202 - 321 Nicola St              | Nicola            |
| Kamloops         | 120 - 546 St. Paul St (Lab)      | St. Paul          |
| Kimberley        | 260 - 4th Ave                    | Kimberley         |
| Ladysmith        | 28 - 370 Davis Rd                | Ladysmith         |
| Lake Cowichan    | 1 - 78 Cowichan Lake Rd          | Lake Cowichan     |
| Langley          | 130 - 19653 Willowbrook Dr       | Willowbrook       |
| Mill Bay         | 240 - 2720 Mill Bay Rd           | Mill Bay          |
| Mission          | 103 - 7343 Hurd St               | Mission           |
| Nanaimo          | 155 - 4750 Rutherford Rd         | North Town        |
| Nanaimo          | 106 - 650 S. Terminal Ave        | Port Place        |
| Nanaimo          | 107 - 50 - 10th St               | Southgate         |
| New Wetsminister | 227 Nelson's Crescent            | Sapperton         |
| North Vancouver  | 305 - 1200 Lynn Valley Rd        | Lynn Valley       |
| North Vancouver  | 201-3650 Mount Seymour Prwy      | Park Gate         |
| Parksville       | 110 - 489 Alberni Hwy            | Parksville        |
| Pitt Meadows     | 102 - 12195 Harris Rd            | Pitt Meadows      |
| Port Alberni     | 106 - 3949 Maple Way             | Port Alberni      |
| Port Coquitlam   | 115 - 1465 Salisbury Ave         | Port Coquitlam    |

| City           | Address                    | LifeLabs PSC Name          |
|----------------|----------------------------|----------------------------|
| Prince George  | 110 - 1699 Victoria St     | Prince George              |
| Qualicum       | 102 - 670 Memorial Ave     | Qualicum                   |
| Quesnel        | 15 - 665 Front St          | Quesnel                    |
| Richmond       | 170 - 6451 Buswell St      | Buswell                    |
| Richmond       | 107 - 6051 Gilbert Rd      | Crestwood                  |
| Richmond       | 200 - 5791 No 3 Rd         | No 3 Rd                    |
| Sechelt        | 101 - 5531 Inlet Ave       | Sechelt                    |
| Sidney         | 101 - 2475 Bevan Ave       | Sidney                     |
| Sooke          | 1260 - 6660 Sooke Rd       | Sooke                      |
| Surrey         | 19 15300-105th Ave         | Guildford                  |
| Surrey         | 112 -15252 - 32nd Ave      | Morgan Creek               |
| Surrey         | 120 - 15331 16th Ave       | Peace Arch                 |
| Surrey         | 201-12080 Nordel Way       | Scott Rd                   |
| Surrey         | 103 - 9639 137A St         | Surrey City Centre 2 (CC2) |
| Terrace        | 105 - 4634 Park Ave        | Terrace                    |
| Tranquille     | 1 - 685 Tranquille Rd      | Tranquille                 |
| Vancouver      | 208 - 1200 Burrard St      | Burrard                    |
| Vancouver      | 340 - 3150 East 54th Ave   | Champlain Square           |
| Vancouver      | 206 - 1160 Burrard St      | City Centre                |
| Vancouver      | 2 - 1530 West 7th Ave      | Cityview                   |
| Vancouver      | 1506 East Hastings St      | East Hastings              |
| Vancouver      | 701 - 750 Broadway W       | Fairmont                   |
| Vancouver      | 2061 42nd Ave West         | Kerrisdale                 |
| Vancouver      | 972 West King Edward Ave   | King Edward                |
| Vancouver      | 204 - 180 Keefer St        | Main & Keefer              |
| Vancouver      | 290 - 2184 Broadway W      | Regent                     |
| Vancouver      | 6540 Fraser St             | Southill                   |
| Vancouver      | 8207 Ontario St            | Sunset                     |
| Vancouver      | 407 Gore Ave               | Three Pillars              |
| Vancouver      | 215 - 650 West 41st Ave    | Woodridge                  |
| Victoria       | 200 - 1590 Cedar Hill X Rd | Cedar Hill                 |
| Victoria       | 208 - 582 Goldstream Ave   | Colwood                    |
| Victoria       | 220 - 1641 Hillside Ave    | Hillside                   |
| Victoria       | 102 - 4480 W Saanich Rd    | Royal Oak                  |
| Victoria       | 131 - 2945 Jacklin Rd      | Westshore                  |
| Victoria       | 230 - 174 Wilson St        | Westside                   |
| Victoria       | 200 - 1120 Yates St        | Yates                      |
| West Vancouver | 109 - 575 16th St          | Hollyburn                  |