All about Paxlovid

COVID-19 Community of Practice for Ontario Family Physicians

April 22, 2022

Dr. Andrew Morris
Dr. Sohal Goyal
Dr. Kelly Grindrod
All about Paxlovid

Moderator: Dr. Tara Kiran
  Fidani Chair, Improvement and Innovation
  Department of Family and Community Medicine, University of Toronto

Panelists:
• Dr. Andrew Morris, Toronto, ON
• Dr. Sohal Goyal, Mississauga, ON
• Dr. Kelly Grindrod, Waterloo, ON

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits.
We acknowledge that the lands on which we are hosting this meeting include the traditional territories of many nations.

The OCFP and DFCM recognize that the many injustices experienced by the Indigenous Peoples of what we now call Canada continue to affect their health and well-being. The OCFP and DFCM respect that Indigenous people have rich cultural and traditional practices that have been known to improve health outcomes.

I invite all of us to reflect on the territories you are calling in from as we commit ourselves to gaining knowledge; forging a new, culturally safe relationship; and contributing to reconciliation.
### STEP 1 Determine the risk of disease progression.

- **Higher risk** individuals are those who have a ≥25% risk of hospitalization if they develop COVID-19. **Standard risk** individuals are those who have a <5% of hospitalization.
- Indigenous people, Black people, and members of other racialized communities may be at increased risk of disease progression due to disparate rates of comorbidity, increased barriers to vaccination, and social determinants of health. They should be considered priority populations for access to COVID-19 drugs and therapies.

<table>
<thead>
<tr>
<th>AGE (years)</th>
<th>NUMBER OF VACCINE DOSES</th>
<th>RISK FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 doses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 or 2 doses</td>
<td></td>
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<td></td>
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<td>Higher risk if ≥3 risk factors¹</td>
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</tr>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Immunocompromised individuals of any age

**Higher risk**: Therapeutics should always be recommended for immunocompromised individuals not expected to mount an adequate immune response to COVID-19 vaccination or SARS-CoV-2 infection due to their underlying immune status, regardless of age or vaccine status.¹³

### Pregnancy

**Higher risk**: Thera
tics should always be recommended for pregnant individuals who have received zero vaccine doses.

---

1. Evidence for the safety and efficacy of sotrovimab and nirmatrelvir/ritonavir (Paxlovid) in children <18 years of age is limited. While early evidence on risk factors for moderate and severe COVID-19 in children is emerging, the ability to reliably predict disease progression in children remains very limited, and the frequency of progression is rare. While not routinely recommended in children <18 years of age, the use of these agents may be considered in exceptional circumstances (e.g., severe immunocompromise and/or multiple risk factors, clinical progression) on a case-by-case basis. Multidisciplinary consultation with Infectious Diseases (or Pediatric Infectious Diseases) and the team primarily responsible for the child's care is recommended to review the individual consideration of these medications.

2. Examples of immunocompromised or immunosuppressed individuals include receipt of treatment for solid tumors and hematologic malignancies (including individuals with lymphoid malignancies who are being monitored without active treatment), receipt of solid-organ transplant and taking immunosuppressive therapy, receipt of chimeric antigen receptor (CAR) T-cell or hematopoietic stem cell transplant (within 2 years of transplantation or taking immunosuppression therapy), moderate or severe primary immunodeficiency (e.g., DiGeorge syndrome, Wiskott-Aldrich syndrome, common variable immunodeficiency, Good's syndrome, hyper IgE syndrome), advanced or untreated HIV infection, active treatment with high-dose corticosteroids (i.e., ≥20 mg prednisone or equivalent per day when administered for ≥2 weeks), alkylating agents, antineoplastic, transplant-related immunosuppressive drugs, cancer chemotherapeutic agents classified as severely immunosuppressive, tumor-necrosis factor (TNF) blockers, and other biologic agents that are immunosuppressive or immunomodulatory. These individuals should have a reasonable expectation for 1-year survival prior to SARS-CoV-2 infection.

3. Therapeutics should always be recommended for pregnant individuals who have received zero vaccine doses.
Changing the way we work

A community of practice for family physicians during COVID-19

At the conclusion of this series participants will be able to:

• Identify the current best practices for delivery of primary care within the context of COVID-19 and how to incorporate into practice.
• Describe point-of-care resources and tools available to guide decision making and plan of care.
• Connect with a community of family physicians to identify practical solutions for their primary care practice under current conditions.

Disclosure of Financial Support

This CPD program has received in-kind support from the Ontario College of Family Physicians and the Department of Family and Community Medicine, University of Toronto in the form of logistical and promotional support.

Mitigating Potential Bias

• The Scientific Planning Committee has full control over the choice of topics/speakers.
• Content has been developed according to the standards and expectations of the Mainpro+ certification program.
• The program content was reviewed by a three-member national/scientific planning committee.

Potential for conflict(s) of interest:

N/A

Planning Committee: Dr. Tara Kiran, Patricia O’Brien (DCFM), Susan Taylor (OCFP) and Mina Viscardi-Johnson (OCFP), Liz Muggah (OCFP)

Previous webinars & related resources:

https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions
Dr. Andrew Morris—Panelist
Twitter: @ASPhysician
Medical Director, Antimicrobial Stewardship Program, Sinai Health System/University Health Network

Dr. Sohal Goyal—Panelist
Twitter: @sohalv
Family Physician, West Mississauga Medical

Dr. Kelly Grindrod—Panelist
Twitter: @kgrindrod
Pharmacist and Associate Professor, University of Waterloo School of Pharmacy
Dr. David Kaplan – Co-Host
Twitter: @davidkaplanmd
Family Physician, North York Family Health Team and Vice President, Quality, Ontario Health

Dr. Liz Muggah – Co-Host
Twitter: @OCFP_President
OCFP President, Family Physician, Bruyère Family Health Team
Speaker Disclosure

- Faculty Name: **Dr. Andrew Morris**
- Relationships with financial sponsors:
  - Grants/Research Support: Academic Health Sciences Alternate Funding Plan, Ontario College of Family Physicians
  - Speakers Bureau/Honoraria: N/A
  - Others: N/A

- Faculty Name: **Dr. Sohal Goyal**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: CPD Network, Tamarind, ICEBM, HLS Therapeutics, Amgen, Abbott, Bausch, ICPDHM, Galderma, Astellas, Pfizer, Merck, Astra Zeneca, Tribute, Canadian Collective Research, Pediapharma, Duchesnay, Servier, Takeda, Aralez, Novonordisk, Sprout Pharma, Ardeane, GSK, Ontario College of Family Physicians
  - Others: N/A

- Faculty Name: **Dr. Kelly Grindrod**
- Relationships with financial sponsors:
  - Grants/Research Support:
  - Speakers Bureau/Honoraria:
  - Others:
Speaker Disclosure

- **Faculty Name: Dr. David Kaplan**
  - Relationships with financial sponsors:
    - Grants/Research Support: N/A
    - Speakers Bureau/Honoraria: Ontario College of Family Physicians
    - Others: Ontario Health (employee)

- **Faculty Name: Dr. Liz Muggah**
  - Relationships with financial sponsors:
    - Grants/Research Support: N/A
    - Speakers Bureau/Honoraria: Ontario College of Family Physicians
    - Others: N/A

- **Faculty Name: Dr. Tara Kiran**
  - Relationships with financial sponsors:
    - Grants/Research Support: St. Michael’s Hospital, University of Toronto, Health Quality Ontario, Canadian Institute for Health Research, Ontario Ministry of Health, Gilead Sciences Inc (re: Hepatitis C), Staples Canada (re: Patient Engagement)
    - Speakers Bureau/Honoraria: Ontario College of Family Physicians, Ontario Medical Association, Doctors of BC, Nova Scotia Health Authority, Osgoode Hall Law School, Centre for Quality Improvement and Patient Safety, Vancouver Physician Staff Association, University of Ottawa, Ontario Health
Outline for today

• Paxlovid—what it does, who might benefit
• Wisdom from a family physician
• Wisdom from a pharmacist
• Provincial tools to support prescribing
• Lots of Q&A
How to Participate

• All questions should be asked using the Q&A function at the bottom of your screen.

• Press the thumbs up button to upvote another guests questions. Upvote a question if you want to ask a similar question or want to see a guest’s question go to the top and catch the panels attention.

• Please use the chat box for networking purposes only.
Dr. Andrew Morris– Panelist
Twitter: @ASPhysician
Medical Director, Antimicrobial Stewardship Program, Sinai Health System/University Health Network

Dr. Sohal Goyal– Panelist
Twitter: @sohalv
Family Physician, West Mississauga Medical

Dr. Kelly Grindrod– Panelist
Twitter: @kgrindrod
Pharmacist and Associate Professor, University of Waterloo School of Pharmacy
The drug

- I say NIR-muh-TREL-veer/rih-TON-a-VEER
- you can say PAX-loh-vid OR pax-LOH-vid
- acts on proteolysis by inhibiting the viral 3CL (M\textsuperscript{pro}) protease

Source: Dr. Tal Distelman-Menachem, Pfizer
Properties of an ideal COVID drug?

- it makes you feel better
- it prevents progression to severe disease
- it prevents transmission
- it prevents (+/- treats) Long COVID
- it is cheap and readily available
- it is easy to take (route, duration) with no drug/food interactions
- it doesn’t harm you
Does nirmatrelvir/ritonavir make you feel better?

• conservative answer: we don’t know

• skeptical answer:
  • it was measured in EPIC-HR (the study published in *NEJM*) and not reported
  • and there is that December 14, 2021 Pfizer press release ...
EPIC-SR Interim Results

Interim analyses of the EPIC-SR (Evaluation of Protease Inhibition for COVID-19 in Standard-Risk Patients) Phase 2/3 study, which included unvaccinated adults who were at standard risk (i.e., low risk of hospitalization or death) as well as vaccinated adults who had one or more risk factors for progressing to severe illness, showed that the novel primary endpoint of self-reported, sustained alleviation of all symptoms for four consecutive days, as compared to placebo, was not met.
Does nirmatrelvir/ritonavir prevent progression to severe disease?

- In a study of unvaccinated high-risk adults with 6.2% hospitalized with placebo, nirmatrelvir/ritonavir reduced hospitalizations by 5.4% (RRR 88%), giving a number needed to treat (NNT) of 18.

*NEJM* 2022; 386:1397-1408. DOI: 10.1056/NEJMoa2118542
Who was included in EPIC-HR (high risk)

• Median age: 46
• unvaccinated
• Only ~ 20% had more than 1 comorbidity
• <1% immunosuppressed

In fact, this study was massively under-represented by the very patients who we would mostly use it in.

NEJM 2022; 386:1397-1408. DOI: 10.1056/NEJMoa2118542
What is the estimated NNT for various baseline risks?

<table>
<thead>
<tr>
<th>Baseline risk of hospitalization</th>
<th>Absolute Risk Reduction (ARR) assuming 87.6% Effective</th>
<th>Number Needed to Treat (NNT) to Prevent a Hospitalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>0.88%</td>
<td>114</td>
</tr>
<tr>
<td>3%</td>
<td>2.63%</td>
<td>38</td>
</tr>
<tr>
<td>5%</td>
<td>4.38%</td>
<td>23</td>
</tr>
</tbody>
</table>
What is the estimated NNT for various baseline risks?

<table>
<thead>
<tr>
<th>AGE (years)</th>
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</tr>
<tr>
<td>≥70</td>
<td>Higher risk</td>
</tr>
<tr>
<td>Immunocompromised² individuals of any age</td>
<td>Higher risk: Therapeutics should always be recommended for immunocompromised individuals not expected to mount an adequate immune response to COVID-19 vaccination or SARS-CoV-2 infection due to their underlying immune status, regardless of age or vaccine status.¹²</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Higher risk³</td>
</tr>
</tbody>
</table>

• If we use very recent Alberta data, even with 1 or 2 doses of vaccine and Omicron, the risk is only greater than 3% if age >50 with 3 or more risk factors or >70 with 1 risk factor.
Paxlovid effects on Viral Load

**Unadjusted VL**

**Overall Population (mITT)**

<table>
<thead>
<tr>
<th>Days</th>
<th>NMV/r</th>
<th>Placebo</th>
<th>Mean (±SE) Change from Baseline vs. Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>831</td>
<td>776</td>
<td>-0.468 (±0.591)</td>
</tr>
<tr>
<td>Day 2</td>
<td>767</td>
<td>745</td>
<td>-0.655 (±0.845)</td>
</tr>
<tr>
<td>Day 3</td>
<td>736</td>
<td>720</td>
<td>-0.351 (±0.578)</td>
</tr>
<tr>
<td>Day 4</td>
<td>730</td>
<td>740</td>
<td>-0.168 (±0.567)</td>
</tr>
</tbody>
</table>

**Adjusted VL**

**Overall Population**

<table>
<thead>
<tr>
<th>No. at Risk</th>
<th>NMV/r</th>
<th>Placebo</th>
<th>Mean (±SE) Change from Baseline vs. Placebo</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>552</td>
<td>553</td>
<td>-0.35 (±0.8)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>529</td>
<td>525</td>
<td>-0.8 (±0.64)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>6-10</td>
<td>508</td>
<td>507</td>
<td>-0.44 (±0.16)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>11-14</td>
<td>502</td>
<td>479</td>
<td>-0.03 (±0.08)</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

**Seronegative**

<table>
<thead>
<tr>
<th>No. at Risk</th>
<th>NMV/r</th>
<th>Placebo</th>
<th>Mean (±SE) Change from Baseline vs. Placebo</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>318</td>
<td>312</td>
<td>-0.16 (±0.33)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>304</td>
<td>294</td>
<td>-1.2 (±0.14)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>6-10</td>
<td>297</td>
<td>284</td>
<td>-0.67 (±0.14)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>11-14</td>
<td>295</td>
<td>267</td>
<td>-0.21 (±0.12)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**Seropositive**

<table>
<thead>
<tr>
<th>No. at Risk</th>
<th>NMV/r</th>
<th>Placebo</th>
<th>Mean (±SE) Change from Baseline vs. Placebo</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>231</td>
<td>233</td>
<td>-0.38 (±0.16)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>222</td>
<td>223</td>
<td>-0.44 (±0.16)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>6-10</td>
<td>208</td>
<td>215</td>
<td>-0.31 (±0.12)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>11-14</td>
<td>203</td>
<td>200</td>
<td>-0.06 (±0.02)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

NEJM 2022; 386:1397-1408. DOI: 10.1056/NEJMoa2118542
Cost-effectiveness of nirmatrelvir/ritonavir

<table>
<thead>
<tr>
<th>Drug</th>
<th>Cost/Patient</th>
<th>2.5% Risk</th>
<th>5% Risk</th>
<th>10% Risk</th>
<th>2.5% Risk</th>
<th>5% Risk</th>
<th>10% Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluvoxamine (meta-analysis)</td>
<td>14</td>
<td>160 (96–1334)</td>
<td>80 (48–667)</td>
<td>40 (24–334)</td>
<td>2244 (1346–18 709)</td>
<td>1122 (673–9355)</td>
<td>561 (337–4684)</td>
</tr>
<tr>
<td>Colchicine (meta-analysis)</td>
<td>37</td>
<td>182 (103–40 000)</td>
<td>91 (52–20 000)</td>
<td>46 (26–10 000)</td>
<td>6667 (3773–1 465 200)</td>
<td>3333 (1905–732 600)</td>
<td>1685 (952–366 300)</td>
</tr>
<tr>
<td>Inhaled corticosteroids</td>
<td>132</td>
<td>143 (69–800)</td>
<td>72 (45–400)</td>
<td>36 (23–200)</td>
<td>18 819 (11 712–105 280)</td>
<td>9475 (5922–52 640)</td>
<td>4738 (3027–26 320)</td>
</tr>
<tr>
<td>(meta-analysis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molnupiravir (meta-analysis)</td>
<td>700</td>
<td>100 (72–236)</td>
<td>50 (36–118)</td>
<td>25 (18–59)</td>
<td>70 000 (50 400–165 200)</td>
<td>35 000 (25 200–82 600)</td>
<td>17 500 (12 600–41 300)</td>
</tr>
<tr>
<td>(meta-analysis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remdeavir (phase 3)</td>
<td>1872</td>
<td>58 (45–160)</td>
<td>28 (23–80)</td>
<td>14 (12–40)</td>
<td>104 832 (84 240–299 520)</td>
<td>52 416 (43 058–149 760)</td>
<td>28 208 (22 464–74 880)</td>
</tr>
</tbody>
</table>

Drug Safety

<table>
<thead>
<tr>
<th></th>
<th>Nirmatrelvir Group N=1109</th>
<th>Placebo Group N=1115</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of adverse events</td>
<td>476</td>
<td>525</td>
</tr>
<tr>
<td>Patients with any adverse event — no. (%)</td>
<td>251 (22.6)</td>
<td>266 (23.9)</td>
</tr>
<tr>
<td>Serious adverse event</td>
<td>18 (1.6)</td>
<td>74 (6.6)</td>
</tr>
<tr>
<td>Maximum grade 3 or 4 adverse event</td>
<td>45 (4.1)</td>
<td>93 (8.3)</td>
</tr>
<tr>
<td>Maximum grade 5 adverse event</td>
<td>0</td>
<td>13 (1.2)</td>
</tr>
<tr>
<td>Discontinued drug or placebo because of adverse event</td>
<td>23 (2.1)</td>
<td>47 (4.2)</td>
</tr>
<tr>
<td>Had dose reduction or temporary discontinuation owing to adverse event</td>
<td>4 (0.4)</td>
<td>4 (0.4)</td>
</tr>
</tbody>
</table>

**Conclusions**

In patients with rheumatoid arthritis, treatment with rofecoxib, a selective inhibitor of cyclooxygenase-2, is associated with significantly fewer clinically important upper gastrointestinal events than treatment with naproxen, a nonselective inhibitor. (N Engl J Med 2000;343:1520-8.)

Properties of an ideal COVID drug?

✗ it makes you feel better
✓ it prevents progression to severe disease
? it prevents transmission
? it prevents (+/- treats) Long COVID
✗ it is cheap and readily available
✗ it is easy to take (route, duration) with no drug/food interactions
✓ it doesn’t harm you
COVID treatment in primary care

COVID Cold and Flu Care Clinic, Mississauga
Sohal Goyal, Family Physician
Our Journey

- Started October 25, 2021
- Testing, Assessments
- Treatment Jan 31, 2022
- Team based care – nurses, family physicians, pharmacists
Our initial pathway
Clinical Case

- 47 y.o. with diabetes type 2, lives alone
- Sore throat x 4d, fever, chills
- 2 covid shots or 3?
- Home rapid test positive or negative?
- Meds – atorvastatin 10, metformin 500 bid, amlodipine 10 mg, candesartan 16 mg
- Blood work done 1 year ago – egfr - 61
Criteria Feb 23, 2022 – OST

### RISK FACTORS

Obesity (BMI over 30), DM, Heart disease (HTN, CHF), Chronic Respiratory disease (inc. cystic fibrosis), cerebral palsy, intellectual or developmental disability, sickle cell disease, moderate severe kidney disease (eGFR ≤ 60mL/min), moderate or severe liver disease (e.g., Child’s Pugh Class B or C cirrhosis)

<table>
<thead>
<tr>
<th>Age</th>
<th>0 doses</th>
<th>1 or 2 doses</th>
<th>3 doses</th>
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<tr>
<td>≤ 20</td>
<td>Higher risk if ≥ 3 risk factors</td>
<td>Standard risk</td>
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</tr>
<tr>
<td>≥ 70</td>
<td>Higher risk</td>
<td>Higher risk if ≥ 1 risk factors</td>
<td>Higher risk if ≥ 3 risk factors</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Higher risk</td>
<td>Standard risk</td>
<td>Standard risk</td>
</tr>
</tbody>
</table>

Eligibility April 11, 2022

<table>
<thead>
<tr>
<th>Age</th>
<th>0 doses</th>
<th>1 or 2 doses</th>
<th>3 doses or 4 doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-59</td>
<td>□</td>
<td>□ Eligible if ≥ 1 risk factors</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>60-69</td>
<td>□</td>
<td>□ Eligible</td>
<td>Not Eligible</td>
</tr>
<tr>
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<td>□</td>
<td>□ Eligible</td>
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Clinical case

- 47 y.o. with diabetes type 2, lives alone
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Drug Interactions

### COVID-19 Drug Interactions

**About** | **Interaction Checkers** | **Prescribing Resources** | **Contact Us**
---|---|---|---

**COVID Drugs** | **Co-medications** | **Drug Interactions**
---|---|---
nirmatrelvir | aml | Check COVID/COVID drug interactions

**A-Z** | **Class** | **Trade**
---|---|---

Nirmatrelvir/ritonavir
(Please read the interaction details as management of these interactions may be complex.)

Amlodipine

Bamlanivimab/Etesevimab

Amlodipine

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**Notes:**
- If a drug is not listed below, it cannot automatically be assumed it is safe to co-administer.
- Check COVID/COVID drug interactions
- Reset Checker
- Switch to table view
- Results Key

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**Potential Interaction**

Nirmatrelvir/ritonavir
(Please read the interaction details as management of these interactions may be complex.)

Amlodipine

More Info
Nirmatrelvir/Ritonavir (Paxlovid): What Prescribers and Pharmacists Need to Know

Ontario COVID-19 Drugs and Biologics Clinical Practice Guidelines Working Group on behalf of the Ontario COVID-19 Science Advisory Table and University of Waterloo School of Pharmacy.

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Home > Science Briefs
**Interactions**

- **Atorvastatin**: Hold and restart 2 days after completing ledipasvir/sofosbuvir. Alternatively, reduce atorvastatin to 10 mg daily. Resume usual dose 2 days after completing ledipasvir/sofosbuvir.
  - Atorvastatin AUC increased almost 6-fold when coadministered with ledipasvir/sofosbuvir 400/100 mg twice daily.

- **Amlodpine (Norvasc)**: Reduce amlodpine dose by 50% and restart usual dose 2 days after completing ledipasvir/sofosbuvir.
  - Monitor blood pressure.
  - Amlodpine AUC increased 2-fold when coadministered with ledipasvir/sofosbuvir or paritaprevir/ritonavir.

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**If a drug is not listed below it cannot automatically be assumed it is safe to coadminister.**

<table>
<thead>
<tr>
<th>COVID Drugs</th>
<th>Co-medications</th>
<th>Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)</td>
<td>Clopidogrel (recently stented patients)</td>
<td>Atorvastatin</td>
</tr>
<tr>
<td>Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)</td>
<td>Clopidogrel</td>
<td>Amlodpine</td>
</tr>
<tr>
<td>Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)</td>
<td>Meropenem</td>
<td>Amlodpine</td>
</tr>
<tr>
<td>A-Z</td>
<td>Class</td>
<td>Trade</td>
</tr>
</tbody>
</table>

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**Potential Interaction**

Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)

**Potential Interaction**

Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)

**No Interaction Expected**

Nirmatrelvir/ritonavir (Please read the interaction details as management of these interactions may be complex.)
Clinical case

• 47 y.o. with diabetes type 2, lives alone
• Sore throat x 4d, fever, chills
• 2 covid shots or 3?
• Home rapid test positive or negative?
• Meds – atorvastatin 10, metformin 500 bid, amlodipine 10 mg, candesartan 16 mg, CLOPIDOGREL
• PMHx – Afib ?, Stroke?, ACS?
• Blood work done 1 year ago – egfr - 61
Interactions

**Clopidogrel (Plavix)**

**Acute coronary syndrome (ACS)/percutaneous coronary intervention (PCI):**
- If <1 month since ACS: Use alternative COVID-19 agent.
- If <3 months since ACS or <1 month since PCI (no ACS): Consider switching clopidogrel to prasugrel (if age <75, weight >60 kg, and no history of stroke/TIA) and resume clopidogrel 2 days after completing rimeparin/lonavir.
- If ≥3 months since ACS or >1 month since PCI (no ACS): Continue clopidogrel with acetylsalicylic acid (ASA) during rimeparin/lonavir therapy. If not taking ASA, consider switching to prasugrel (if age <75, weight >60 kg, and no history of stroke/TIA) and resume clopidogrel 2 days after completing rimeparin/lonavir.

**Apixaban (Eliquis)**

- If possible, use alternative COVID-19 agent. If not possible, ensures stable renal function, then:
  - Acute venous thromboembolism (VTE):
    - Hold apixaban and restart 2 days after completing rimeparin/lonavir. While apixaban is on hold, start the specific loading of a subcutaneous low molecular weight heparin (LMWH) such as:
      - Dalteparin 200 units/kg daily q12h 100 units/kg every 12 hours if <60 kg.
      - Enoxaparin 1 mg/kg every 12 hours (preferred) or 1.5 mg/kg once every 24 hours.
      - Tinzaparin 175 units/kg subcutaneously daily.
  - Renal filtration:
    - Decrease apixaban to 2.5 mg twice daily, then resume usual dose 2 days after completing rimeparin/lonavir.
    - If patient is taking 2.5 mg twice daily, use an alternative COVID-19 agent.

**Co-administration will decrease the antiplatelet effect of clopidogrel.**

Clopidogrel active metabolites AUC decreased by 51 to 69% when coadministered with lonavir.
<table>
<thead>
<tr>
<th>Kidney Function</th>
<th>Current Dosing Schedule</th>
<th>Proposed Dosing Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFR &gt; 60</td>
<td>300 mg nirmatrelvir + 100 mg ritonavir both twice a day for 5 days</td>
<td>GFR &gt; 60</td>
</tr>
<tr>
<td>GFR 30 - 60</td>
<td>150 mg nirmatrelvir + 100 mg ritonavir both twice a day for 5 days</td>
<td>GFR 30 - 60</td>
</tr>
<tr>
<td>GFR &lt; 30</td>
<td>Do not use</td>
<td>GFR &lt; 30</td>
</tr>
<tr>
<td>Dialysis</td>
<td>Do not use</td>
<td>Dialysis</td>
</tr>
</tbody>
</table>
Questions?

- Are they at high risk?
- Are they getting better?
- Do they want treatment?
- Are they aware that some of their meds may be stopped or may not work?
- Side effects?
PRO TIPS

eGFR in your high risk patients
RAT tests for your high risk patients
Consider an oximeter
Ensure that your patients keep med lists ready
Herbals and supplements
Reach out early, when the symptoms first start
Challenges

- Biggest challenge – Identification of the patient
- Testing
- Consent – Does the patient want treatment?
- Drug interactions
- Creatinine
- Access to other therapies
- Follow-up
Covidinfo.ca – updated regularly with tools
Paxlovid™ in Ontario Pharmacies

Kelly Grindrod BScPharm PharmD MSc
Associate Professor, University of Waterloo School of Pharmacy
Starting Paxlovid™ Timelines

Symptomatic Phase:
- **Day 0**: First day of symptom onset
- **Day 5**: Last day eligible to start Paxlovid™

What to do:
- Confirm diagnosis (rapid antigen test/PCR)
- Confirm eligibility
- Obtain best possible medication history
- Assess for drug interaction(s)
- Counsel on expected side effects

Treatment Phase:
- **Day 1**: First day of Paxlovid™ treatment
- **Day 5**: Last day of Paxlovid™ treatment
- **Day 7**: Resume usual dosing of other treatments

What to do:
- **Day 2-3**: Follow-up with patient to assess tolerability, need for further interaction dose adjustments, etc.
- **Day 5**: Ensure treatment completion, remind patient when to resume normal dosing of interacting co-medications.
How do I dose nirmatrelvir/ritonavir for treatment of COVID-19?

1. Paxlovid consists of 2 drugs packaged together:
   - Nirmatrelvir (pink) 150 mg tablet
   - Ritonavir (white) 100 mg tablet

2. Each carton contains 5 blister cards. One blister card is used each day. The full course of treatment is 5 days.

3. Take 2 pink tablets of nirmatrelvir and 1 white tablet of ritonavir (3 tablets total) together at the same time, once in the morning and once in the evening for 5 days (i.e., 6 tablets per day).
   - Nirmatrelvir/ritonavir may be taken with or without food.

Special Dosing Considerations:

eGFR 30 to 59 mL/min:
The dose is 1 each of nirmatrelvir 150 mg and ritonavir 100 mg, with both tablets taken together orally BID x 5 days.

eGFR <30 mL/min:
Nirmatrelvir/ritonavir is not recommended.

Severe hepatic impairment (Child-Pugh Class C):
Nirmatrelvir/ritonavir is not recommended.
Practical Tips

- Pills cannot be split or crushed
- Take with or without food
- Bad taste in mouth and diarrhea common
- Renal dosing: pharmacist can remove extra nirmatrelvir pill
- Pharmacist can add pills to blister packing
- Pharmacy can delivery to patient home, may charge fee
Nirmatrelvir/ritonavir (Paxlovid)
What Prescribers and Pharmacists Need to Know

Why is nirmatrelvir/ritonavir used to treat COVID-19?
COVID-19 has an initial phase of viral replication and a significant inflammatory response in moderate illness. This inflammation can lead to poor outcomes, including hospitalization, invasive ventilation, and death. However, treatments that target SARS-CoV-2 replication, if administered before the inflammatory phase of COVID-19, can improve outcomes.
Nirmatrelvir works by binding to the SARS-CoV-2 3CL protease, which ultimately causes viral replication to stop. Ritonavir is a potent CYP3A4 inhibitor. It is not active against SARS-CoV-2 but is administered as a "boosting agent" to slow the metabolism of nirmatrelvir, thus increasing concentrations of nirmatrelvir.

What is the benefit of nirmatrelvir/ritonavir for COVID-19?
The EPIC HR study has shown a benefit from treatment of adult outpatients with laboratory-confirmed SARS-CoV-2 infection who were not on supplemental oxygen and were within 5 days of symptom onset. The study suggests that nirmatrelvir/ritonavir may reduce the risk of hospitalization in these patients by 88%.
Research on nirmatrelvir/ritonavir was done in unvaccinated patients and prior to circulation of the Omicron variant. However, a study suggests that nirmatrelvir/ritonavir retains activity against the Omicron variant in vitro. The Ontario Science Advisory Table recommends the use of nirmatrelvir/ritonavir in COVID-19 patients who are not on supplemental oxygen but are at high risk of progression to moderate or severe COVID-19.1

Who should receive nirmatrelvir/ritonavir?
Nirmatrelvir/ritonavir should be offered to patients at higher risk of severe COVID-19 (patients with COPD or a provider-administered rapid test) who are not on supplemental oxygen, and who are within 5 days of symptom onset.

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Examples of Drugs to Adjust

- Easy: Amlodipine
  - Reduce by 50%, monitor BP
- Easy: Viagra, Cialis prn
  - Hold or lower dose
- Moderate: Zopiclone, aripiprazole
  - Reduce by 50%, monitor hangover effect—may need to reduce more
- Difficult: clopidogrel, DOACs, transplant meds, chemo meds
  - Consider remdesivir
Examples of Drugs To Hold

- Atorvastatin, rosuvastatin
- Alfuzosin, tamsulosin
- Salmeterol
  - Use only steroid for week or switch LABA to formoterol/vilanterol
Examples of Drugs to Switch

• Clopidogrel
  • Options based on time since ACS/PCI: hold, Prasugrel, CI
• Apixaban, Edoxaban, Riviroxaban
  • Consider remdesivir
  • Options based on risk: hold, half dose, or bridge w/LMWH
• Clonazepam, diazepam, flurazepam
  • Switch to: Lorazepam, oxazepam, temazepam

Do not coadminister
Hold and restart 2 days after completing nirmatrelvir/ritonavir.
Examples of Contraindicated Drugs

- Inducers in last 2 weeks
  - St. John’s wort
  - Carbamazepine, phenytoin
- Narrow therapeutic window (risk of overdose or serious reaction)
  - Fentanyl, Clozapine
- Too long acting for Paxlovid 5-day treatment window
  - Amiodarone, IM risperidone, lurasidone
• Confirm that an eligible patient will also benefit from treatment
  • “You have reduced your risk so much through vaccination that we don’t know if you benefit from this treatment.”
  • If a patient has complex drug interactions but is low risk (e.g., has had all eligible vaccines and otherwise healthy), consider advising against treatment

• Partnership between pharmacy & primary care
  • You are not alone
  • Give enough info for pharmacist to assess (eGFR, eligibility)
  • Treatment window is 5 days from symptom onset
  • Many patients coming to the pharmacy at day 4 or 5
  • If the prescriber is unreachable, the patient will miss the treatment window
  • Call ahead or give a number where you can be reached in next 24h
Paxlovid™ Tools for Primary Care

DAVID KAPLAN MD, MSc, CCFP, FCFP | APRIL 22, 2022

VP Quality, Clinical Institutes and Quality Programs
What We Heard

Family Doctors and Nurse Practitioners are contributing significantly to Paxlovid uptake and access, however report challenges including:

- Patient-facing communication
- Identification of high-risk patients who may benefit from Paxlovid but are not aware/informed
- Trepidation surrounding drug interactions
- Prescribing supports
Tools for Identifying High Risk Patients

1. **IDENTIFICATION**

   Primary care providers can use the reports available through COVaxON to identify 70+ unvaccinated patients who may benefit from Paxlovid.

2. **COMMUNICATION**

   Use the EMR searches created for the 3 main primary care EMRs and identify age, immunocompromised individuals and those with risk factors such as obesity, diabetes, hypertension.

3. **COMMUNICATION**

   Send an email template to patients identified during steps 1 and 2 (e.g., OCFP adaptable script).

**OMD, eCE and other partners assisting with supports**
Tools for Communicating

OCFP Adaptable Script

Patient eligibility for Paxlovid to treat COVID-19

The antiviral Paxlovid is now available to more people with COVID-19, particularly those at high-risk for developing severe illness. The following adaptable script may be adapted for your clinic and patients.

UPDATE ON PAXLOVID FOR TREATING COVID-19

Dear patients,

You may have heard about Paxlovid, an anti-viral tablet for COVID-19. Here are the key things to know:

- Most people with COVID-19 symptoms just need to self-isolate and rest, drink plenty of fluids, and take measures such as antibiotics, as needed for headaches, fever, or muscle aches.
- This information sheet answers many of the most common questions about COVID-19, including when to call the doctor's office.
- Paxlovid is used to treat adults who are admitted to moderate COVID-19 patients and are at high-risk of worsening to severe illness, who might require hospitalization. Depending on your age, health, and vaccination status, it could be an option for you. See the table below and use the provided question sheet to see if you might benefit from Paxlovid or other treatments. There are several conditions to consider, including potential interactions with other drugs or a discussion with your doctor before you start treatment.
- If you think you might qualify for treatment and have COVID-19 symptoms (even mild), call your doctor right away. Do not wait for your symptoms to become severe. Treatment must start within 5 days of your first symptoms. We can help determine next steps.
- You are prescribed Paxlovid, find a list of pharmacy locations that can fill your prescription.
- Call 911 or go to the Emergency Department if you have severe symptoms, such as those that affect your breathing, chest pain, or difficulty breathing, or you feel like you are at risk for injury to your health.
- You may be at high-risk if you are:
  - over 65 years old
  - have a weakened immune system due to a health condition or medications
  - over 60 years old (regardless of vaccination status)
  - over 50 years old with fewer than three vaccine doses
  - over 50 years old with fewer than three vaccine doses and at least one of these risk conditions:
    - diabetes
    - chronic kidney disease
    - chronic obstructive pulmonary disease (COPD)
    - heart disease
    - hypertension
    - age (75 years old or older)
    - moderate or severe chronic lung disease
    - moderate or severe liver disease
    - moderate or severe heart failure

We are always here for you and will ensure you get the care you need, when you need it.

Next steps:

OH Patient Information Sheet

Antiviral treatment (Paxlovid) is available for higher-risk individuals with COVID-19

Know your risk and get assessed

Available treatments can help prevent serious illness if taken within 5 days of the start of symptoms.

Who should get this treatment?

Your primary care provider or another healthcare provider can tell you if you are at higher risk of serious illness from COVID-19.

Risk conditions include:

- diabetes
- obesity
- heart disease
- hypertension
- chronic kidney disease
- COPD
- liver disease
- immune system issues
- HIV
- moderate or severe liver disease
- moderate or severe heart failure
- pregnancy

Your primary care provider or another healthcare provider can tell you if you are at higher risk of serious illness from COVID-19.
## Potential Longer Term Actions

<table>
<thead>
<tr>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimize EMR tools to identify high risk patients to benefit from Paxlovid – expand to all vendors and skill level of clinical users. eCE and OMD collaborating on EMR support and tool development.</td>
</tr>
<tr>
<td>Change management facilitation through comprehensive OMD and eCE supports (e.g. Peer Leaders, webinars, one-on-one support)</td>
</tr>
<tr>
<td>Create materials about 'best practice' workflows on how to incorporate the tools/searches/forms into the office workflow and provide sample templates for reach out to patients with a goal as indicated to reduce stress on clinicians and their clinics</td>
</tr>
<tr>
<td>OMD/eCE to collaborate on ongoing improvements to EMR tools incorporating feedback</td>
</tr>
<tr>
<td>Consolidate all resources to &quot;one look&quot; that can be recreated in multiple places</td>
</tr>
</tbody>
</table>
Tools for Prescribing and Identifying Drug Interactions

Approaches from the field

Ontario Science Table
What Prescribers and Pharmacists Need to Know

Centre for Effective Practice
COVID-19: Clinical Guidance for Primary Care Providers

- EMR prescribing tools, such as a provider assessment and prescribing tool in PS Suite
- A “prescription favorite” in PSS to aid in Paxlovid prescribing and use auto EMR drug interaction identification
- EMR KT Tool & Rx all-in-one available in OSCAR, TELUS PSS and Accuro EMRs
(Nirmatrelvir-Ritonavir) Paxlovid™ Prescription

MUST include accurate medication list with Form

Please fax completed form AND patient’s medication list to patient’s preferred pharmacy

Prescriber information

First Name

Last Name

DOB

Sex (at birth)

male

female

City

Postal Code

TelephoneNumber

Fax

Height (cm)

Weight (Kg)

Patient information

First Name

Last Name

Address

City

Postal Code

Telephone

Preferred Language

INCLUSION CRITERIA: MUST MEET CRITERIA TO PROCEED WITH TREATMENT

Date of positive COVID test:

Date of symptom onset (must be 5 days or less):

<table>
<thead>
<tr>
<th>AGE (YEARS)</th>
<th>0, 1, OR 2 DOES</th>
<th>3 DOES</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 or older</td>
<td>Eligible if 1 or more risk factors Not Eligible</td>
<td></td>
</tr>
<tr>
<td>55 to 64</td>
<td>Eligible Not Eligible</td>
<td></td>
</tr>
<tr>
<td>45 to 54</td>
<td>Eligible Not Eligible</td>
<td></td>
</tr>
<tr>
<td>18 to 44</td>
<td>Eligible Not Eligible</td>
<td></td>
</tr>
</tbody>
</table>

Immunocompromised individuals of any age

Eligible: Therapeutics should always be recommended for immunocompromised individuals not expected to mount an adequate immune response to COVID-19 vaccination or SARS-CoV-2 infection due to their underlying immune status, regardless of age or vaccine status.

Pregnancy

Eligible Not Eligible

Indigenous persons (First Nations, Inuit, or Metis), Black persons, and members of other racialized communities may be at high risk of disease progression due to disparate rates of comorbidity, increased vaccination barriers, and social determinants of health, and should be considered priority populations for access to COVID-19 therapeutics.

Risk Factors: (Check all that apply)

- Obesity (BMI greater than or equal to 30 kg/m²)
- Diabetes
- Heart disease, hypertension, congestive heart failure
- Chronic respiratory disease, including cystic fibrosis
- Cerebral palsy
- Intellectual disability
- Sickle cell disease
- Moderate or severe kidney disease (eGFR less than 60 ml/min)
- Moderate or severe liver disease (e.g. Child-Pugh Class B or C)
- Evidence for less than 18 years of age is limited. Multidisciplinary consultation with infectious diseases and primary care is recommended

Immunocompromise Factors: (Check all that apply)

- Solid organ or bone marrow transplant (*)
- CAR T-cell therapy
- Anti-CD 20 agent
- Alkylating agents, anti-metabolites (*)
- Advanced or untreated HIV
- Congenital immunodeficiency
- Anti-TNF blockers or other biologic agents (*)
- Taking chronic oral corticosteroid (greater than 20mg/d prednisone equivalent for greater than 2 weeks)
- Other: Name of immune modifying Drug

(*) Depending on absolute contraindications

Medication Order

Standard Dose (eGFR above 60ml/min)
- Paxlovid (Nirmatrelvir 150mg and Ritonavir 100mg): Take 2 pink tablets of nirmatrelvir and 1 white tablet of ritonavir once in the morning and once in the evening for 5 days

Reduced Dose (eGFR between 30-59ml/min)
- Paxlovid (Nirmatrelvir 150mg and Ritonavir 100mg): Take 1 pink tablet of nirmatrelvir and 1 white tablet of ritonavir once in the morning and once in the evening for 5 days

By prescribing this medication, the referring prescriber assumes responsibility for all follow up.

Physician/NP Registration Number

Signature

Date

Note: These individuals should have a reasonable expectation for 1-year survival prior to R&R/COVID-19 infection.
Resources

Clinical/Prescriber Guidance
- Centre for Effective Practice (CEP) New Guidance for the Prescription of Nirmatrelvir / Ritonavir (Paxlovid™)
- Ontario Science Table Clinical Practice Guideline Summary: Recommended Drugs and Biologics in Adult Patients with COVID-19
- Ontario Science Table Nirmatrelvir/Ritonavir (Paxlovid): What Prescribers and Pharmacists Need to Know
- University Health Network/Women’s College Hospital COVID Therapeutics Overview
- Ontario Health Access to COVID-19 antiviral treatment (Paxlovid): Information for primary care providers and other health care providers caring for patients in the community

Patient and Public Information
- Ontario Health Patient Fact Sheet

Comprehensive Websites
- Ontario College of Family Physicians Prescribing Paxlovid, Patient Resources and More
- Ontario Ministry of Health COVID Antiviral Treatment (public information, screening tool and dispensing pharmacy list)
- Government of Canada COVID-19 Vaccines and Treatments Portal: Paxlovid (information for health care providers, consumers and researchers)

Templates for Patient Communication
- Ontario College of Family Physicians Patient Eligibility for Paxlovid to treat COVID-19 template
Paxlovid Resources

Developed in collaboration with Partnering For Quality, the eHealth Centre of Excellence has developed several resources to help with Paxlovid prescriptions and referrals. These resources are available for PS Suite, Oscar and Accuro.

Paxlovid Prescription Form

PS Suite: (Designed by PFQ)
1. Download the package: Click here
2. Unzip the .cfm file to your Desktop
3. Import the .cfm file into PS Suite

Oscar: (Developed by eCE)
1. Download the package: Click here
2. Import the full .zip package into Oscar

Accuro: (Designed by PFQ)

Found in the global forms list
Name: Paxlovid Prescription- 04122022- DC
Publisher: wejerrtt
Date: April 13, 2022

PDF version: Click here

Pharmacy Master List
2. Click on the button “Find a pharmacy that dispenses antivirals”

https://ehealthce.ca/COVID-vax.htm#Paxlovid%20Resources
Pharmacies for COVID-19 antiviral treatment

COVID-19 antiviral treatment

Learn about COVID-19 antiviral treatments, who is eligible and how to get treatment.

- Find out if antivirals may be right for you
- Find a pharmacy that dispenses antivirals

On this page

- Overview
- Who antiviral treatments are for
- How to get treatment

Pharmacies dispensing Paxlovid

https://www.google.com/maps/d/u/0/edit?mid=1_zXBQgh2TK2tm_mVmNwByeDtD0xs8Bcr&ll=43.77302208707974%2C-79.47531803905962&z=10
Pharmacies dispensing Paxlovid

https://www.google.com/maps/d/viewer?mid=1PdhbqFxXfkgV4upoX64E1Fu6xLtJhDt
Prescribing Paxlovid

✓ **Mild to moderate disease, no supplemental oxygen**
  - positive COVID-19 test: PCR, rapid molecular or rapid antigen test.
  - self-administered RAT, verified by provider is acceptable

✓ **Higher risk of severe disease**
  - see next slide: SAT’s “Who should receive nirmatrelvir/ritonavir”
  - will patient benefit from treatment?

✓ **Within 5 days of symptom onset**

✓ **No cost to Ontario patients | Health Card not required**

✓ **Assess drug-drug interactions**

✓ **Patient may be referred/self-refer to COVID Clinical Assessment Centre**

- Science Advisory Table
- Map of pharmacy locations dispensing Paxlovid (Google map): [https://www.google.com/maps/d/u/0/viewer?mid=1PdhbqFxFXfk8V4uPOx64E1Fu6xLtJhDt&ll=46.21437504877865%2C-84.5458116&z=6](https://www.google.com/maps/d/u/0/viewer?mid=1PdhbqFxFXfk8V4uPOx64E1Fu6xLtJhDt&ll=46.21437504877865%2C-84.5458116&z=6)
Who Should Receive Paxlovid?

Who should receive nirmatrelvir/ritonavir?
Nirmatrelvir/ritonavir should be offered to patients at higher risk of severe COVID-19 (proven by PCR* or a provider-administered rapid test), who are not yet on supplemental oxygen, and who are within 5 days of symptom onset.

*PCR = polymerase chain reaction

<table>
<thead>
<tr>
<th>AGE (years)</th>
<th>NUMBER OF VACCINE DOSES</th>
<th>RISK FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 doses</td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>Higher risk if ≥2 risk factors¹</td>
<td></td>
</tr>
<tr>
<td>20 to 39</td>
<td>Higher risk if ≥2 risk factors¹</td>
<td></td>
</tr>
<tr>
<td>40 to 69</td>
<td>Higher risk if ≥2 risk factors¹</td>
<td></td>
</tr>
<tr>
<td>≥70</td>
<td>Higher risk if ≥2 risk factors¹</td>
<td></td>
</tr>
<tr>
<td>Immunocompromised² individuals of any age</td>
<td>Higher risk: Therapeutics should always be recommended for immunocompromised individuals not expected to mount an adequate immune response to COVID-19 vaccination or SARS-CoV-2 infection due to their underlying immune status, regardless of age or vaccine status.³</td>
<td></td>
</tr>
</tbody>
</table>

1. Evidence for the safety and efficacy of sotrovimab and nirmatrelvir/ritonavir (Paxlovid) in children <18 years of age is limited. While early evidence on risk factors for moderate and severe COVID-19 in children is emerging, the ability to reliably predict disease progression in children remains very limited, and the frequency of progression is rare. While not routinely recommended in children <18 years of age, the use of these agents may be considered in exceptional circumstances (e.g., severe immunocompromise and/or multiple risk factors, clinical progression on a case-by-case basis). Multidisciplinary consultation with Infectious Diseases (or Pediatric Infectious Diseases) and the team primarily responsible for the child’s care is recommended to review the individual consideration of these medications.

2. Examples of immunocompromised or immunosuppressed individuals include receipt of treatment for solid tumors and hematologic malignancies (including individuals with lymphoma malignancies who are being monitored without active treatment), receipt of solid-organ transplant and taking immunosuppressive therapy, receipt of chimeric antigen receptor (CAR) T cell or hematopoietic stem cell transplant (within 1 year of transplantation or taking immunosuppressive therapy), moderate or severe primary immunodeficiency (e.g., DiGeorge syndrome, Wiskott-Aldrich syndrome, common variable immunodeficiency, Good’s syndrome, hyper IgE syndrome), advanced or untreated HIV infection, active treatment with high-dose corticosteroids (≥20 mg prednisone or equivalent per day when administered for ≥2 weeks), alkylating agents, antimetabolites, transplant-related immunosuppressive drugs, cancer chemotherapeutic agents classified as severely immunosuppressive, tumor-necrosis factor (TNF) blockers, and other biologic agents that are immunosuppressive or immunomodulatory. These individuals should have a reasonable expectation for 1 year survival prior to SARS-CoV-2 infection.

3. Therapeutics should always be recommended for pregnant individuals who have received zero vaccine doses.


Ontario Science Table: Nirmatrelvir/Ritonavir (Paxlovid): What Prescribers and Pharmacists Need to Know - Ontario COVID-19 Science Advisory Table (covid19-scientable.ca) (February 23, 2022)
COVID-19 testing locations and clinical assessment centres

Find your closest location to get a COVID-19 test or clinical assessment.

Free rapid test kits
As of February 9th, Ontario is distributing millions of rapid antigen tests each week through pharmacy and grocery locations across the province, as well as through community partners in vulnerable communities.

Learn about the free rapid test kit program and where to find a location.

Clinical assessment centres
On this page, you can search for clinical assessment centres (where you can get assessed, tested, and provided treatment options for COVID-19).

Get more information on clinical assessment centres and find out if you're eligible for COVID-19 antiviral treatment.

COVID-19 Clinical Assessment Centres (CACs): Information for Primary Care Providers

List of Clinical Assessment Centres

The Ministry of Health’s [COVID-19 testing locations and clinical assessment centres webpage](https://tools.cep.health/tool/covid-19/#listCAC) contains contact information for all Assessment Centres (ACs) and Clinical Assessment Centres (CACs) in the province. To find CACs, check off the “Provides clinical assessments” box under Services Available on the left side of the page.

https://tools.cep.health/tool/covid-19/#listCAC


**Recommended interval 5 months (140 days) after 3rd dose (minimal interval 84 days):**

- Ontarians 60+;
- Indigenous residents and their non-Indigenous household members aged 18 or older

**3 months (84 days) after their 3rd dose for 18+; or 6 months (168 days) for 12-17:**

- long-term care and retirement home residents, those who live in First Nation elder care lodges and older adults in other congregate care settings that have health and assisted living services
- People who are immunocompromised including:
  - People on dialysis, those receiving cancer treatment, those with previous organ or stem-cell transplants, those with advanced or untreated HIV, people with rare genetic disorders that impair the immune system, people taking immunosuppressant medications

**For people who are immunocompromised: 18+ and living in a group setting; or 18+ and First Nations, Inuit or Métis; or 60+ and received three primary doses plus 1st booster (4th dose) are eligible for a 2nd booster (5th dose)**

Examples:

- transplant recipient (including solid organ transplant and hematopoietic stem cell transplants)
- receiving stable, active treatment (chemotherapy, targeted therapies, immunotherapy) for a malignant hematologic disorder or solid tumor
- receiving chimeric antigen receptor (CAR)-T-cell treatment
- have moderate or severe primary immunodeficiency (for example, DiGeorge syndrome, Wiskott-Aldrich syndrome)
- stage 3 or advanced untreated HIV infection or acquired immunodeficiency syndrome
- in active treatment with any of these immunosuppressive therapies:
  - anti-B cell therapies (monoclonal antibodies targeting CD19, CD20 and CD22)
  - high-dose systemic corticosteroids
  - alkylating agents
  - antimetabolites, or tumor-necrosis factor (TNF) inhibitors and other biologic agents that are significantly immunosuppressive taking specific immunosuppressant medications
Confused about COVID?

As Omicron sweeps through communities across Ontario, Canada and beyond, patients are grappling with a large amount of confusing information and new uncertainties about COVID.

To cut through the confusion, family doctors have come together to help patients and the public make sense of the current COVID rules and realities. The 'Confused about COVID? Family doctors answer your questions' series offers patients and the public trustworthy advice about protecting their health and how family doctors can help.

https://dfcm.utoronto.ca/confused-about-covid
CONFUSED ABOUT COVID? FAMILY DOCTORS ANSWER YOUR QUESTIONS.

"I think I have COVID. When should I call my doctor?"

Most people with COVID can manage at home. You should:

- Rest.
- Drink plenty of fluids.
- For fever, headaches, and muscle aches: use over-the-counter pain and fever medications. Acetaminophen (Tylenol) is the best choice if you can take it.
- For a cough: try a teaspoon of honey (except if you have diabetes or if it is for a child under 12 months) or turn on a humidifier.
- For a sore throat: try lozenges or gargle with warm salt water.
- For mild discomfort when breathing: keep the room cool, open the window, try relaxation exercises and shifting your position.

If you have COVID, you must self-isolate. If you need care, you should not hesitate to call your doctor. Learn more here: rebrand.ly/Feeling-Unwell.

Call your doctor for an appointment if:

**01 You have a medical condition that needs attention.**

COVID can worsen medical problems such as diabetes, asthma, heart disease, lung disease, high blood pressure or other long-term conditions. If you get COVID and have one of those health problems, your treatment might have to change. Call your doctor if you are unsure about how to manage these conditions while you have COVID.

If pregnant, your risk of more serious illness from COVID increases. Call your pregnancy care provider for advice and follow-up.

"If I get COVID, is there a medication I can take?"

If you have COVID, you must self-isolate. If you need care, you should not hesitate to call your doctor. Learn more here: rebrand.ly/Feeling-Unwell.

Most people who get COVID can recover at home without treatment. To find out how to care for yourself at home or when to call your doctor, visit rebrand.ly/When-To-Call.

People who are sick enough to go to hospital will be given medications to help them recover. For people who are at higher risk of serious illness, medications are available that can help prevent them from needing to be cared for in hospital.

**Who can get these medications?**

Medications to treat COVID are for people who are at higher risk of getting seriously ill. That’s because the research on these medications was generally done on people who were at higher risk of serious illness.

If you have COVID, please call your family doctor right away to discuss potential treatment if ANY of the following apply to you:

- You have an immune system that is weakened by a health condition or medications. For example, DiGeorge Syndrome, cancer chemotherapy or high-dose steroid treatment.
- You have any of the following chronic conditions: Diabetes, obesity, high blood pressure, heart disease, heart failure, lung disease including cystic fibrosis, serious liver or kidney problems, intellectual disability, cerebral palsy or sickle cell disease.
- You are 70 or older.
- You are pregnant.
- You have not had any doses of a COVID-vaccine.

Call your pregnancy care provider.

Updated: Apr. 5, 2022
For other questions, please visit ConfusedAboutCOVID.ca.
**OCFP/SGFP Virtual Advocacy Town Hall**

For Members

Mark your calendars:

Monday, May 2, 7:00pm – 8:00pm

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**ADVOCACY CAMPAIGN UPDATE**

Dr Kate J Miller (she/her) @DrKateJMiller · Apr 13

Email from a family friend whose family doctor is retiring

Them: Seems to me that all the patients should be referred to someone else if doc has stopped practice rather than set adrift

Me: there are no someones to refer you to

#LifeWithoutADoctor
Questions?

Webinar recording and curated Q&A will be posted soon
https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions

Our next Community of Practice: Friday, May 13, 2022

Contact us: ocfpcme@ocfp.on.ca

Visit: https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits.

Post session survey will be emailed to you. Mainpro+ credits will be entered for you with the information you provided during registration.