Nirmatrelvir-ritonavir for COVID-19

Nirmatrelvir is an orally available antiretroviral 3C-like protease (3CL PRO) inhibitor co-administered with ritonavir, also an antiretroviral protease inhibitor. Nirmatrelvir-ritonavir is active against all SARS-CoV-2 variants, including Omicron and subvariants.

CLINICAL INDICATIONS

Patients with confirmed non-severe COVID-19 AND those:
- at highest risk for hospitalization; and
- with symptoms less than 5 days.

Those at highest risk are typically those that lack COVID-19 vaccination, with older age and/or chronic conditions, such as: hypertension, diabetes, cardiac disease, chronic lung disease, cerebrovascular disease, dementia, mental disorders, chronic kidney disease, immunosuppression (including HIV), obesity, and cancer.

Women and people who are pregnant are more susceptible to infection and severe respiratory disease.

AVAILABLE FORMULATION AND STORAGE

- Nirmatrelvir must be co-administered with ritonavir and is co-packaged.
  - Nirmatrelvir is available in 150 mg tablets.
  - Ritonavir is available in 100 mg tablets.

- Failure to co-administer ritonavir will result in insufficient plasma concentrations of nirmatrelvir to achieve the desired therapeutic effect.

- Store tablets at room temperature (20–25 °C).

DOSAGE AND ROUTE

Route
The route of administration is oral (by mouth). Tablets should be swallowed whole and not be chewed, opened, broken or crushed for dispersion.

Dose and duration
In patients with normal renal function, the dose is 300 mg nirmatrelvir (two 150 mg tablets) with 100 mg ritonavir (one 100 mg tablet) taken together orally every 12 hours daily for a total of 5 days.

Dose adjustment
Nirmatrelvir-ritonavir requires adjustment in patients with renal impairment.

<table>
<thead>
<tr>
<th>eGFR (mL/min/1.73 m²)</th>
<th>Recommended dose (nirmatrelvir-ritonavir) x 5 days. Adults &gt; 18 years age</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 60</td>
<td>300 mg - 100 mg orally every 12 hours</td>
</tr>
<tr>
<td>30–60</td>
<td>150 mg - 100 mg orally every 12 hours</td>
</tr>
<tr>
<td>&lt; 30</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Haemodialysis</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Continuous renal replacement therapy (CRRT)</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

Nirmatrelvir-ritonavir does not require adjustment in patients with hepatic impairment. Caution should be taken when prescribed in those with pre-existing liver diseases, liver enzyme abnormalities or hepatitis. It should not be used in patients with advanced liver disease.