# Dosing of Paxlovid in Renal Disease

**Guidance for the use of nirmatrelvir/ritonavir in patients with advanced chronic kidney disease and patients on dialysis**

*Summarised from guidance initially produced by Ontario Health Renal Network.*

## Background

- **Paxlovid** (nirmatrelvir/ritonavir, NMV/r) is a very effective therapy in the early management of high-risk patients, such as those with advanced chronic kidney disease or those on dialysis, however it is renally cleared and product labels do not currently recommend it for patients with eGFR <30 ml/min.\(^1,2\)
- Compared to healthy controls with no renal impairment, Cmax and AUC of nirmatrelvir increased by 30% and 24% in patients with mild renal impairment, by 38% and 87% in patients with moderate renal impairment, and by 48% and 204% in patients with severe renal impairment.\(^1\)
- On the basis of clinical, modelling and patient data\(^3\), an adjusted dose given at a lower frequency has been proposed for use in people with eGFR <30 ml/min and in those on dialysis after appropriate evaluation and discussion of risks and benefits with the patient.
- The adjusted dose of NMV/r was found to be safe and well tolerated in a small sample of 134 maintenance dialysis patients with most patients (128, 96%) able to complete the course of NMV/r.\(^4\)

## Current and Proposed Dosing Recommendations

<table>
<thead>
<tr>
<th>Renal Function</th>
<th>Current Label Recommendations</th>
<th>Proposed Dosing Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>eGFR &gt;60 ml/min</td>
<td>300 mg nirmatrelvir + 100 mg ritonavir both twice daily for 5 days</td>
<td>300 mg nirmatrelvir + 100 mg ritonavir both twice daily for 5 days</td>
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<tr>
<td>eGFR 30-60 ml/min</td>
<td>150 mg nirmatrelvir + 100 mg ritonavir both twice daily for 5 days</td>
<td>150 mg nirmatrelvir + 100 mg ritonavir both twice daily for 5 days</td>
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<tr>
<td>eGFR &lt;30 ml/min</td>
<td>Do not use</td>
<td>Patients ≥ 40 kg: 300 mg nirmatrelvir + 100 mg ritonavir both on day 1, followed by 150 mg nirmatrelvir + 100 mg ritonavir both once daily for 4 days. Patients &lt;40 kg: 150 mg nirmatrelvir + 100 mg ritonavir both on day 1, followed by 150 mg nirmatrelvir + 100 mg ritonavir both every 48 hours for 2 more doses, given after dialysis</td>
</tr>
<tr>
<td>Dialysis</td>
<td>Do not use</td>
<td></td>
</tr>
</tbody>
</table>

## References

1. Paxlovid Summary of Product Characteristics, Pfizer Ltd.
2. Paxlovid FDA Emergency Use Authorization, Pfizer Inc.

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