

## Crushing nirmatrelvir+ritonavir (Paxlovid®) tablets

### Background

Pfizer state in their prescribing information that both nirmatrelvir and ritonavir tablets should be swallowed whole and not chewed, broken, or crushed. [1] This is due to a lack of pharmacokinetic data to support administration in this manner. However, a Phase 1 study with a nirmatrelvir suspension found similar pharmacokinetic parameters to those reported for the tablet. [2] Pfizer have also released information on how to prepare a liquid suspension from nirmatrelvir and ritonavir tablets for administration via enteral tubes, based on an unpublished laboratory study assessing the physicochemical stability of such a formulation. [3]

### Recommendation

Given that alternative antivirals may not be as effective as nirmatrelvir+ritonavir, we suggest it is reasonable to crush these tablets for those patients who have trouble swallowing, or who require administration via an enteral tube.

#### Enteral tubes

1. Disperse nirmatrelvir tablet(s) in 10 mL water in an enteral syringe.
2. Shake vigorously and then lie the syringe flat for about 3 minutes to allow the tablet(s) to fully disintegrate.
3. Crush ritonavir tablet and disperse in 10 mL water in an enteral syringe.
4. Shake vigorously and then lie the syringe flat for about 3 minutes to allow the powder to fully disintegrate.
5. The resulting liquids are stable for 4 hours but should be administered within 5 minutes of each other.
6. Flush with 10 mL water in between each addition and afterwards.

#### Trouble swallowing

1. Crush nirmatrelvir and ritonavir tablets.
2. Mix the resulting powder with a small amount of liquid or soft food.

### References

1. Data sheet: Paxlovid. [Internet]. Pfizer New Zealand Pty Ltd; [cited 2022 Dec 19]. Available from: <https://www.medsafe.govt.nz/profs/Datasheet/p/paxlovidtab.pdf>
2. Innovative Randomized Phase 1 Study and Dosing Regimen Selection to Accelerate and Inform Pivotal COVID-19 Trial of Nirmatrelvir | medRxiv [Internet]. [cited 2022 Dec 19]. Available from: <https://www.medrxiv.org/content/10.1101/2022.02.08.22270649v1>
3. Pfizer Medical Information. PF-07321332 (nirmatrelvir)/Ritonavir Administration via Enteral Feeding Tubes. 2022.