### Interaction tables - refer to page 2 for legend, abbreviations and notes

Drug interaction data for many agents is limited or absent. Management of interactions with nirmatrelvir/ritonavir (Paxlovid) may be complex and full details should be obtained from the website where possible.

Please note that if a drug is not listed it cannot automatically be assumed it is safe to coadminister.

**Analgesics**
- Codeine
- Diclofenac
- Fentanyl
- Hydromorphone
- Ibuprofen
- Mefenamic acid
- Morphine
- Oxycodeone
- Paracetamol
- Tramadol

**Antiarrhythmics**
- Amiodarone
- Digoxin
- Lidocaine

**Antibacterials**
- Amikacin
- Amoxicillin
- Ampicillin
- Bedaquiline
- Cefaloxin
- Cefazolin
- Cefixime
- Cefotaxime
- Ceftriaxone
- Chloramphenicol
- Ciprofloxacin
- Clarithromycin
- Clindamycin
- Clofazimine
- Cloxacillin
- Cycloserine
- Dapsone
- Delamanid
- Doxycycline
- Erythromycin
- Ethambutol
- Ethionamide
- Gentamicin
- Imipenem/cilastatin
- Isoniazid
- Kanamycin
- Levofloxacin
- Linezolid
- Meropenem
- Metronidazole
- Moxifloxacin
- Nitrofurantoin
- Ofloxacin
- Para-aminosaliclyc acid
- Penicillin
- Piperacillin
- Pyrazinamide
- Rifabutin
- Rifampin
- Rifapentine
- Spectinomycin
- Streptomycin
- Sulfadiazine
- Tazobactam
- Tetracyclines
- Trimethoprim/sulfamethoxazole
- Vancomycin

**Anticoagulants/antiplaeteria**
- Apixaban
- Aspirin (antiplatelet)
- Clopidogrel (stented)
- Dalteparin
- Edoxaban (e)
- Enoxaparin
- Enoxaparine
- Rivaroxaban
- Streptokinase
- Warfarin (f)

**Anticonvulsants**
- Carbamazepine
- Clonazepam
- Ethosuximide
- Lamotrigine
- Phenytoin
- Sodium valproate
- Valproate semisodium (Divalproex sodium)
- Valproic acid

**Antidepressants**
- Amitriptyline
- Clomipramine
- Fluoxetine
- Lithium
- St John’s Wort

**Antifungals**
- Amphotericin B
- Fluconazole
- Fluconazole
- Griseofulvin
- Itraconazole
- Voriconazole

**Antipsychotics**
- Chlorpromazine
- Clozapine
- Fluphenazine
- Haloperidol
- Risperidone

**Anticoagulants**
- Diazepam
- Lorazepam
- Midozolam

**Beta blockers**
- Atenolol
- Bisoprolol
- Carvedilol
- Metoprolol
- Propranolol

**Bromocriptinol**
- Aminophylline
- Ipratropium bromide
- Salbutamol
- Calcium channel blockers
- Amlodipine
- Nifedipine
- Verapamil

**Cancer drugs**
- Dasatinib (h)
- Erlotinib (i)
- Hydroxyurea (Hydroxyurea)
- Imatinib (i)
- Methotrexate
- Paclitaxel
- Tamoxifen
- Vinblastine (k)

**Contraceptives**
- Ethinylestradiol
- Etonogestrel (IMP)
- Etonogestrel (VR)
- Levonorgestrel (COC)
- Levonorgestrel (EC)
- Levonorgestrel (iUD)
- Levonorgestrel (POP)
- Medroxyprogesterone (depot injection)
- Norethisterone (COC)
- Norethisterone (IM)
- Norethisterone (POP)
- Norgestrel (COC)

**COVID19 therapies**
- Budesonide (inhaled)
- Convalescent plasma
- Dexamethasone
- Hydrocortisone
- Infliximab
- Methyprednisolone
- COVID19 vaccines

**Gastrointestinal agents**
- Aprepitant
- Domperidone
- Lactulose
- Loperamide
- Mesalazine
- Metoclopramide
- Omeprazole
- Ondansetron
- Ranitidine
- Senna

**HIV antiretrovirals**
- Abacavir
- Atazanavir/ritonavir
- Darunavir/ritonavir
- Dolbufiragri
- Efavirenz
- Emtricitabine
- Lamivudine
- Lopinavir/ritonavir
- Nevirapine
- Raltegravir
- Tenofor alafenamide
- Tenofor-DF

**Hypertension/heart failure**
- Amlodipine
- Bupindine
- Carbohydrase
- Captopril
- Lisinopril
- Losartan
- Methyldopa
- Spironolactone

**Immunosuppressants**
- Azathioprine
- Ciclosporin
- Everolimus (m)

**Lipid lowering agents**
- Atorvastatin
- Fluvastatin
- Lovastatin
- Simvastatin

**Steroids**
- Beclometasone
- Betamethasone
- Fludrocortisone
- Prednisolone
- Testosterone
- Triamcinolone

**HIV antiretrovirals**
- Ganciclovir/pibrantavir
- Ledipasvir/sofosbuvir
- Ombitavir/paritaprevir/r
- Sofosbuvir/velpatasvir

**Herbs/supplements/vitamins**
- Folic acid
- Iodine
- Magnesium
- Phytomenadione (Vitamin K)
- Pyridoxine (Vitamin B6)
- Retinol (Vitamin A)
- Thiamine (Vitamin B1)

**Antipsychotics**
- Ethionamide
- Ethambutol
- Erythromycin
- Erythromycin
- Ethionamide
- Gentamicin
- Imipenem cilastatin
- Isoniazid
- Kanamycin
- Levofloxacin
- Linezolid
- Meropenem
- Metronidazole
- Moxifloxacin
- Nitrofurantoin
- Ofloxacin
- Paraaminosalicylic acid
- Penicillin
- Piperacillin
- Pyrazinamide
- Rifabutin
- Rifampin
- Rifapentine
- Spectinomycin
- Streptomycin
- Sulfadiazine
- Tazobactam
- Tetracyclines
- Trimethoprim/sulfamethoxazole
- Vancomycin

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Legend

<table>
<thead>
<tr>
<th>Colour/Symbol</th>
<th>Recommendation for NMV/r use</th>
</tr>
</thead>
<tbody>
<tr>
<td>! Do not co-administer</td>
<td>Do not use NMV/r → alternative COVID-19 therapy</td>
</tr>
<tr>
<td>X Do not co-administer</td>
<td>Do not use NMV/r → alternative COVID-19 therapy</td>
</tr>
<tr>
<td>Do not co-administer</td>
<td>NMV/r use ONLY possible if drug is paused or replaced by a non-interacting drug</td>
</tr>
<tr>
<td>Potential interaction</td>
<td>Stop or replace drug if possible or consult specialist for dose adjustment/monitoring to allow use with NMV/r</td>
</tr>
<tr>
<td>Dose adjustment and/or close monitoring required.</td>
<td>Ideally, only start NMV/r if the drug can be safely paused or replaced. Alternatively, dose adjust/monitor. Refer to <a href="http://www.covid19-druginteractions.org">www.covid19-druginteractions.org</a> for detailed information.</td>
</tr>
<tr>
<td>Potential interaction</td>
<td>Proceed with NMV/r</td>
</tr>
<tr>
<td>Manageable by counselling patient</td>
<td>Interaction manageable by counselling the patient about potential interaction and advising to temporarily stop the drug if feeling unwell.</td>
</tr>
<tr>
<td>Weak interaction</td>
<td>Proceed with NMV/r</td>
</tr>
<tr>
<td>No action needed</td>
<td>Drug metabolized partially by CYP3A4 or with low risk of adverse event from interaction.</td>
</tr>
<tr>
<td>No interaction expected</td>
<td>Proceed with NMV/r</td>
</tr>
</tbody>
</table>

Contraceptive Abbreviations

- COC = combined oral contraceptive
- EC = emergency contraception
- EC = emergency contraceptive
- IUD = intrauterine device
- IM = intramuscular
- IMP = implant
- POP = progesterin only contraceptive pill
- VR = vaginal ring

Notes

- a No dose reduction or monitoring in patients with normal renal function.
- b Rifabutin dosed 150 mg once daily with NMV/r.
- c Ritonavir decreases clopidogrel efficacy therefore NMV/r cannot be prescribed in high risk situation (i.e. initial period (at least 6 weeks) post coronary stenting). NMV/r is allowed if clopidogrel is used outside this period or if clopidogrel is used as alternative to aspirin (intolerant patients).
- d When used for the treatment of atrial fibrillation, reduce dabigatran to 110 mg twice daily in individuals with normal renal function and to 75 mg twice daily in individuals with moderate renal impairment. Consult www.covid19-druginteractions.org for management in other indications.
- e When used for the treatment of atrial fibrillation, reduce edoxaban to 30 mg. Consult www.covid19-druginteractions.org for management in other indications.
- f Monitor INR as clinically indicated.
- g Itraconazole or ketoconazole should not be used at doses >200 mg/day.
- h The decision to pause or dose adjust dasatinib should be made in conjunction with the patient’s oncologist.
- i Chronic phase chronic myelogenous leukaemia: pause dasatinib and restart 3 days after completing NMV/r. Alternatively, consider reducing dasatinib dose to 20 mg (in patients receiving 100 mg daily) or 40 mg (in patients receiving 140 mg daily) and monitor for toxicity.
- j Accelerated or blast phase chronic myelogenous leukaemia: do not coadminister, use alternative COVID-19 therapy.
- k The decision to pause or dose adjust erlotinib should be made in conjunction with the patient’s oncologist.
- l If it is decided to pause treatment, restart erlotinib 3 days after completing NMV/r treatment. If pausing erlotinib treatment is not feasible, continue full dose of erlotinib with patient self-monitoring for rash and diarrhoea. If these do occur, reduce erlotinib dose in 50 mg decrements or re-assess for a short pause.
- m The decision to pause imatinib should be made in conjunction with the patient’s oncologist. If it is decided to hold treatment, restart imatinib 3 days after completing NMV/r treatment. Alternatively, imatinib may be coadministered with monitoring for adverse effects (fluid retention, nausea and neutropenia). NMV/r is expected to have a modest effect on imatinib exposure. Coadministration with ritonavir (600 mg once daily) for 3 days did not significantly alter imatinib exposure (van Epp NP et al. Clin Cancer Res. 2007;13(24):7394-400).
- n The decision to pause or dose adjust vinblastine should be made in conjunction with the patient’s oncologist. Vinblastine may be paused in the context of acute infection. Restart vinblastine 3 days after completing NMV/r treatment. Alternatively, vinblastine may be coadministered with close monitoring for haematologic toxicity and neurotoxicity. Some providers may wish to empirically reduce vinblastine dose, especially in patients who have previously experienced or are at high risk for toxicity.
- o Management of this interaction is challenging and would require dosage adjustment and TDM of ciclosporin which may not be possible given the short duration of NMV/r treatment. An alternative COVID treatment should be considered. However, if TDM is available, an empiric dose reduction of ciclosporin has been suggested (reduce total daily dose by 80% and administer once daily) and start NMV/r 12 hours after the last dose of ciclosporin. Continue at reduced dose during treatment with NMV/r (days 1-5). Ciclosporin concentrations should be assessed on day 6 or 7 and repeated every 2-4 days. If concentrations are supratherapeutic, reduce the current ciclosporin dose. If concentrations are therapeutic, continue the current ciclosporin dose. If concentrations are subtherapeutic, increase the ciclosporin daily dose and consider resumption of twice daily dosing. In all cases, repeat ciclosporin concentration monitoring after 2-4 days and continue to dose adjust accordingly.
- p A large increase in everolimus exposure is predicted in presence of NMV/r. Avoid use of NMV/r unless close monitoring of everolimus concentrations is feasible. If coadministered, hold everolimus and start NMV/r 12 hours after the last everolimus dose. Check everolimus concentrations 1-2 days after the last dose of NMV/r. If concentrations are supratherapeutic, continue to hold everolimus and repeat concentration monitoring in 2-4 days to assess resumption. If concentrations are therapeutic/subtherapeutic, resume everolimus at 25-50% of baseline dose. Repeat concentration monitoring every 2-4 days and dose-adjust accordingly.