COVID-19 Oral Antivirals

AS OF: 2/4/2022

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For the most current information please see the HHS Side-by-Side Overview of Treatments. The information below was last updated on 12/30/2021

Oral Antivirals

	Pfizer	Merck
Name	Paxlovid	Molnupiravir
Active Ingredients	Nirmatrelvir-ritonavir	Molnupiravir
Mechanism of action	Peptidomimetic inhibitor of SARS-CoV-2 main protease (Mpro) that renders it incapable of processing polyprotein precursors, preventing viral replication	Prodrug of N4-hydroxycytidine (NHC), which has broad antiviral activity against RNA viruses. NHC uptake by viral RNA-dependent RNA-polymerases results in viral mutations and lethal mutagenesis
Dosing	**Within 5 days of symptom onset** **300 mg nirmatrelvir** (two 150 mg tablets) with **100 mg ritonavir** (one 100 mg tablet) all three tablets taken together twice daily for 5 days with or without food	**Within 5 days of symptom onset** **800 mg** (four 200 mg capsules) every 12 hours for 5 days with or without food
Patient Eligibility Criteria* **(All must apply)**	Have tested positive for COVID-19 Not yet admitted to the hospital High risk of developing severe COVID Weighs at least 88 pounds	Have tested positive for COVID-19 Not yet admitted to the hospital High risk of developing severe COVID Have no alternative FDA-authorized COVID-19 treatment options accessible to them or that are clinically appropriate for them
Age Range	**12 years and older**	**18 years and older**

* **Limitations of use:** Not for initiation of treatment in patients requiring hospitalization due to severe or critical COVID-19. Not authorized for use as pre-exposure or post-exposure prophylaxis for prevention of COVID-19, Not authorized for use longer than 5 consecutive days.

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Considerations** & References

Paxlovid (Pfizer)	Molnupiravir (Merck)
Adverse Events: (Incidence ≥1% and ≥5 subject difference) were dysgeusia, diarrhea, hypertension, and myalgia.	**Adverse events:** Most common adverse reactions (incidence ≥ 1%) are diarrhea, nausea, and dizziness.
Renal considerations: Dose reduction for moderate renal impairment (eGFR ≥30 to <60 ml/min). No recommended in patients with severe renal impairment (eGFR<30 mL/min)	**Embryo-Fetal Toxicity:** Molnupiravir not recommended for use during pregnancy
Severe hepatic impairment: Paxlovid not recommended	**Breast feeding** is not recommended during treatment and for four days after last dose of molnupiravir
Drug interactions: Paxlovid has significant and complex drug-drug interaction potential. It is contraindicated with drugs that are highly dependent on CYP3A for clearance and for which elevated concentrations are associated with serious and/or life-threatening reactions. Paxlovid is also contraindicated with drugs that are potent CYP3A inducers where significantly reduced nirmatrelvir or ritonavir plasma concentrations may be associated with potential for loss of virologic response and possible resistance. Refer to full prescribing information for established and other potentially significant drug interactions.	**Bone and cartilage toxicity:** Molnupiravir not recommended for use in patients less than 18 year of age because it may affect bone and cartilage growth
References: FDA EUA Fact sheet, NIH Treatment Guidelines	**References:** FDA EUA Fact sheet, NIH Treatment Guidelines

** Anti-SARS-CoV-2 therapeutics, which were evaluated initially in unvaccinated individuals, provide the greatest benefit for nonhospitalized patients with risk factors for progression to severe COVID-19. The risks for progression are substantially higher for those not vaccinated or those who are. vaccinated but not expected to mount an adequate immune response to the vaccine. When there are logistical or supply constraints that make it impossible to offer the available therapy to all eligible patients, patient triage will be necessary. Please visit the NIH Panel's interim statement on prioritizing the use of outpatient therapies when logistical or supply constraints exist.