

# Nevirapine (*Viramune*)

## Table of Contents

- [Nevirapine \*Viramune\* Editor's Summary](#)
- [Drug Summary](#)
- [Key Clinical Trials](#)
- [Adverse Effects](#)
- [Use In Pregnancy](#)
- [Resistance](#)
- [Key Drug Interactions](#)

## Drug Summary

Nevirapine, a non-nucleoside reverse transcriptase inhibitor (NNRTI), is no longer widely used in the United States, mainly because safer and more effective antiretroviral medications are available. Nevirapine can cause severe rash and hepatitis, including immune-mediated, life-threatening hypersensitivity reactions. These adverse effects are more likely to occur in individuals who start the medication with a relatively high CD4 count (greater than 250 cells/mm<sup>3</sup> in women and greater than 400 cells/mm<sup>3</sup> in men). Most individuals who once took nevirapine have now switched from nevirapine to one of the newer first-line agents, though some individuals have continued on nevirapine as part of combination therapy without issue. Nevirapine has a relatively low barrier to resistance, and resistance-associated mutations, if they occur, generally result in a high degree of cross-resistance to other NNRTIs, especially with prolonged nevirapine failure. Nevirapine is available as a once-daily extended release formulation, a twice-daily immediate-release formulation, and an oral suspension; all of these are available as generic formulations. For infants considered at high-risk for HIV acquisition, nevirapine is often included for the treatment of the infant, particularly if the mother's viral load was detectable during pregnancy.

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## Key Clinical Trials

Nevirapine plus two NRTIs was found to be non-inferior to efavirenz plus two NRTIs for initial therapy [[2NN](#)]. A trial of treatment-naïve individuals that compared twice-daily immediate-release nevirapine with once-daily extended-release dosing, each combined with tenofovir disoproxil fumarate (DF) and emtricitabine, found equivalent rates of virologic suppression [[VERxVE](#)]. Another study compared patients with virologic suppression who were switched from nevirapine to rilpivirine with those who were maintained on nevirapine; subjects who switched had comparable virologic suppression and had slight improvement in lipids [[NEAR Rwanda](#)]. In a randomized trial involving virologically suppressed patients on two NRTIs plus nevirapine, a patients who were switched to once-daily extended-release nevirapine from twice-daily immediate-release nevirapine achieved similar virologic suppression rates as those patients maintained on the twice-daily immediate-release nevirapine [[TRANxITION](#)].

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## Adverse Effects

The most important nevirapine-associated adverse effects are rash and hepatotoxicity, both of which can be severe and life threatening. Rash generally occurs during the first 6 weeks of treatment and the likelihood of developing rash decreases if nevirapine is initiated at half dose (200 mg once daily) for two weeks and then increased to full dose, assuming no rash is present. The severe rash can manifest as Steven-Johnson Syndrome or toxic epidermal necrolysis. Several studies reported a higher incidence of the rash in women than in men and in patients with a higher pretreatment CD4 cell count. Nevirapine-associated hepatotoxicity, which is immune-mediated, can also be severe and, in some instances, life threatening; identified risk factors for developing hepatotoxicity include female sex, a high pretreatment CD4 count, and underlying liver disease or viral hepatitis. Approximately 50% of persons who develop hepatotoxicity also have rash. Nevirapine should not be started in a woman with CD4 count above 250 cells/mm<sup>3</sup> or a man with CD4 count above 400 cells/mm<sup>3</sup>. If a patient taking nevirapine has a CD4 cell count rise to above these thresholds, nevirapine does not need to be stopped. Nevirapine should never be used for postexposure prophylaxis.

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## Use In Pregnancy

In the HHS Perinatal Guidelines section Recommendations for Use of Antiretroviral Drugs During Pregnancy (last updated October 19, 2017), **nevirapine** is designated in the category Not Recommended for Initial ART in Pregnancy; nevirapine is not recommended for pregnant women with HIV due to potential severe adverse events, complex lead-in dosing, and a low barrier to resistance.

- For additional information regarding the safety and toxicity of nevirapine in pregnancy see the HHS Perinatal Guidelines summary on [Nevirapine](#).
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## Resistance

For a listing of the most common clinically significant mutations associated with nevirapine (NVP) resistance, see the [NNRTI Resistance Notes on the Stanford University HIV Drug Resistance Database](#).

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## Key Drug Interactions

For complete information on nevirapine-related drug interactions, see the [Drug Interactions section in the Nevirapine \(Viramune\) Prescribing Information](#).

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<https://www.hiv.uw.edu/page/treatment/drugs/nevirapine>