# What Tuberculosis Clinicians Should Know About Nitrosamines

The Food and Drug Administration (FDA) has been investigating the presence of nitrosamine impurities found in **rifampin** and **rifapentine.** This fact sheet provides information for clinicians regarding nitrosamines and their impact on treatment for TB.

## What are nitrosamines?

Nitrosamines are impurities found in water and foods such as cured and grilled meats, dairy products, and vegetables. Exposure may also occur through direct/indirect tobacco inhalation.

## What is the potential risk of nitrosamine intake?

Nitrosamine impurities may increase the risk of cancer if people are exposed to them above acceptable intake (AI) levels and over long periods of time. The AI approximates a 1:100,000 risk of cancer over a lifetime of 70 years of daily dosing. In other words, a person taking a drug that contains nitrosamines at or below the AI limits every day for 70 years is not expected to have an increased risk of cancer. Nitrosamine exposures above AI levels, whether in foods or medications, may be associated with cancers of the digestive tract, lungs, bladder, pancreas, and other organs depending on the duration of exposure. Clinicians should educate patients on the importance of seeking medical evaluation of any abnormalities, as well as staying current on recommended preventive cancer screenings through primary care.

## What is being done to address nitrosamines?

The FDA has set temporary AI levels of nitrosamine in both rifampin and rifapentine until these impurities can be reduced or eliminated. Manufacturers are actively working to decrease nitrosamine levels and are required to report to the FDA if levels exceed the temporarily allowed limits. For FDA updates, visit: fda.gov/drugs/drug-safety-and-availability/fda-updates-and-press-announcements-nitrosamines-rifampin-and-rifapentine.

## What are the temporary acceptable intake limits as of January 28, 2021?

| Medication | Nitrosamine | Acceptable Intake Limit* | Temporary Intake Limit |
|---|---|---|---|
| Rifampin | 1-methyl-4-nitrosopiperazine (MNP) | 0.16 ppm of MNP | 5 ppm of MNP |
| Rifapentine | 1-cyclopentyl-4-nitrosopiperazine (CPNP) | 0.1 ppm of CPNP | 20 ppm of CPNP |

**See: fda.gov/drugs/drug-safety-and-availability/laboratory-analysis-rifampinrifapentine-products*

## Should we stop prescribing rifampin and rifapentine?

No. The Centers for Disease Control and Prevention (CDC) recommends that providers continue prescribing rifampin and rifapentine for TB disease and latent TB infection treatment, based on treatment guidelines. ***The risk of not taking the medicine outweighs any potential risk from nitrosamine exposures.***

## For more information, please visit the following websites:

fda.gov/drugs/drug-safety-and-availability/information-about-nitrosamine-impurities-medications