

# Povidone-Iodine Use in Sinonasal and Oral Cavities: A Review of Safety in the COVID-19 Era

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## Abstract

**Objectives:** Approaches to nasal and oral decontamination with povidone-iodine (PVP-I) have been published to reduce nosocomial spread of Severe Acute Respiratory Syndrome-Coronavirus 2 (SARS-CoV-2). The safety of PVP-I topically applied to the nasal and oral cavity is addressed by a literature review. The specific efficacy of PVP-I against coronaviruses and its potential efficacy against SARS-CoV-2 is discussed.

**Methods:** A review was performed utilizing PubMed and Cochrane Databases. All citations in protocols for nasal and oral PVP-I use regarding COVID-19 were independently reviewed.

**Results:** Povidone-iodine has been safely administered for up to 5 months in the nasal cavity and 6 months in the oral cavity. Concentrations less than 2.5% in vitro do not reduce ciliary beat frequency or cause pathological changes in ciliated nasal epithelium, upper respiratory, or mucosal cells. Adverse events with oral use have not been reported in conscious adults or children. Allergy and contact sensitivity is rare. Chronic mucosal use up to 5% has not been shown to result in clinical thyroid disease. PVP-I is rapidly virucidal and inactivates coronaviruses, including SARS-CoV and Middle East Respiratory Syndrome (MERS).

**Conclusions:** Povidone-iodine can safely be used in the nose at concentrations up to 1.25% and in the mouth at concentrations up to 2.5% for up to 5 months. Povidone-iodine rapidly inactivates coronaviruses, including SARS and MERS, when applied for as little as 15 seconds. There is optimism that PVP-I can inactivate SARS-CoV-2, but in vitro efficacy has not yet been demonstrated.

<https://journalotohns.biomedcentral.com/articles/10.1186/s40463-020-00474-x#:~:text=Numerous%20studies%20have%20confirmed%20that,to%20the%20upper%20aerodigestive%20tract>