

# I-CARE<sup>SM</sup>

## RSV AND FLU TREATMENT

### A Guide to Diagnosing and Managing Influenza and Respiratory Syncytial Virus (RSV) Infections in Adults

In adult patients, COVID-19 (Omicron variant), influenza, and RSV present with similar symptoms and can, therefore, be difficult to distinguish. This guide aims to help diagnose and treat Influenza and Respiratory Syncytial Virus (RSV).

For advice on how to protect yourself against infection, see [I-PREVENT: COVID, Flu and RSV Protection Protocol](#). For treatment of COVID-19, see [I-CARE: Early COVID Treatment Protocol](#).

#### SYMPTOMS AND TESTING

##### ■ Influenza:

Influenza characteristically begins with the abrupt onset of fever, nonproductive cough, and myalgia. Other symptoms include malaise, sore throat, nausea, nasal congestion, and headache. Gastrointestinal symptoms like vomiting and diarrhea are usually not part of influenza in adults.

Older adults (≥65 years) and immunosuppressed patients are more likely to have subtle signs and symptoms; they may present without fever and with milder systemic symptoms than other patients; however, older adults have a higher frequency of altered mental status.

To test for influenza, conventional reverse transcription polymerase chain reaction (RT-PCR) assays are preferred, if available; these are the most sensitive and specific tests for diagnosis of influenza virus infection. An alternative diagnostic test for influenza is an antigen detection assay. These assays have low to moderate sensitivity but high specificity.

##### ■ Respiratory Syncytial Virus (RSV):

RSV is highly infectious, and virtually all individuals have been infected with RSV by the age of two. Previous infection with RSV does not appear to protect against reinfection. Healthy adults are infected with RSV repeatedly throughout their lives and typically have symptoms restricted to the upper respiratory tract.

Signs include cough, cold-like symptoms, runny nose, and conjunctivitis. Compared with other respiratory viruses, RSV is more likely to cause sinus and ear involvement with less prominent fever. RSV is an important and often unrecognized cause of lower respiratory tract infection in older adults and immunocompromised adults.

Diagnosis of RSV is based on a PCR test as well as rapid antigen tests. In adults, the antigen tests have a high specificity however they are less sensitive than PCR-based assays.

#### TREATMENT OF INFLUENZA AND RSV

Not symptom specific; listed in order of importance.

This protocol should also be used in patients with an undiagnosed flu-like illness, i.e., those who have not been tested or those whose tests are negative. We would suggest this treatment protocol in those with diagnosed Respiratory Syncytial Virus (RSV); however, in low-risk patients with mild RSV we would suggest omitting Nitazoxanide/ivermectin.

##### ■ Nasal spray: 2-3 times a day

A 1% povidone-iodine nasal spray and a nasal spray with Iota-Carrageenan are potent inhibitors of SARS-CoV-2 and influenza virus, and dramatically alter the course of infections with these viruses. Nasal irrigations with saline as well as neutral electrolyzed water may also be of some benefit.

##### ■ Mouthwash: 2-3 times daily

Antiseptic-antimicrobial mouthwashes have been shown to inhibit replication of multiple respiratory viruses, including influenza and RSV. We recommend products containing chlorhexidine, povidone-iodine, cetylpyridinium chloride (e.g., Scope™, Act™, Crest™), or the combination of eucalyptus, menthol, and thymol (Listerine™).

##### ■ Elderberry: 4 times daily, according to manufacturer's dosing guidelines

##### ■ Vitamin C: 500-1000 mg, 4 times daily

Vitamin C has important anti-inflammatory, antioxidant, and immune-enhancing properties, including increased synthesis of type I interferons. The effects of Vitamin C on the course of upper respiratory tract infections have long been recognized.

#### About this protocol

The information in this document is our recommended approach to Influenza and RSV based on the best (and most recent) literature.

It is provided as guidance to healthcare providers worldwide. Patients should always consult with their provider before starting any medical treatment.

New medications may be added and/or changes made to doses of existing medications as further evidence emerges. Please check our website at [flccc.net](http://flccc.net) to be sure you are using the latest version of this protocol.

For additional information and references, see ['A Guide to Diagnosis and Management of Influenza and Respiratory Syncytial Virus \(RSV\) Infections in Adults'](#).

#### Disclaimer

The I-CARE: RSV and Flu Treatment Protocol is meant solely for educational purposes regarding potentially beneficial treatment approaches.

Never disregard professional medical advice because of something you have read on our website and releases. This is not intended to be a substitute for professional medical advice, diagnosis, or treatment regarding any patient.

Treatment for an individual patient is determined by many factors and thus should rely on the judgment of your physician or qualified healthcare provider. Always seek their advice with any questions you may have regarding your medical condition or health.

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- **Nitazoxanide:** 500 mg, 2 times daily  
Nitazoxanide (NTZ), an oral antiparasitic drug, has activity against many protozoa and helminths and – like ivermectin – has been shown to have antiviral, anti-inflammatory, and immune-modulatory effects and broad spectrum antiviral activity that includes influenza virus, RSV, and SARS-CoV-2.
- **Ivermectin:** 0.4 mg/kg daily for 5 days  
In-vitro (test tube) studies suggest that ivermectin has broad antiviral activity against RNA viruses including influenza. However, there is no (published) clinical data on the use of ivermectin in the treatment of influenza. Therefore, we recommend ivermectin as part of a multi-drug regimen when nitazoxanide is not available. Ivermectin is best taken with a meal. This drug should be avoided in pregnancy and in patients taking calcineurin inhibitors (cyclosporine and Prograf).
- **Zinc:** 50-90 mg daily  
Zinc is essential for innate and adaptive immunity, with zinc deficiency being a major risk factor for influenza. Due to competitive binding with the same gut transporter, prolonged high-dose zinc (> 50mg day) should be avoided, as this is associated with copper deficiency. Commercial zinc supplements contain 7 to 80 mg of elemental zinc and are commonly formulated as zinc oxide or salts with acetate, gluconate, and sulfate.
- **N-acetylcysteine (NAC):** 600-1200 mg orally, 2 times daily  
NAC, the precursor of reduced glutathione, penetrates cells where it is deacetylated to yield L-cysteine, thereby promoting glutathione (GSH) synthesis. NAC has a broad range of antioxidant, anti-inflammatory, and immune-modulating mechanisms.
- **Sunlight and photobiomodulation (PBM):** 30 minutes daily  
PBM is also known as low-level light therapy, red light therapy, and near-infrared light therapy. Sunlight has great therapeutic powers. Apart from stimulating Vitamin D synthesis, red and near-infrared light have a profound effect on human physiology, notably acting as a mitochondrial stimulant and increasing ATP production.  
  
When it is neither feasible nor practical to expose yourself to midday sunshine, patients can expose themselves to red and near-infrared radiation from LED panels or incandescent lamps.
- **Melatonin:** 5-10 mg nightly  
Melatonin is a potent antioxidant with important anti-inflammatory effects. Slow- or extended-release preparations are preferred. If 10 mg is not well tolerated, cut the dose to 5 mg, and slowly increase as tolerated.
- **Symptomatic treatments**  
In patients who are highly symptomatic, over the counter “flu” preparations with acetaminophen, antihistamines, and a decongestant are suggested.

**Table 1. How to calculate ivermectin dose**

Note that ivermectin is available in different strengths (e.g., 3, 6 or 12 mg) and administration forms (tablets, capsules, drops, etc.). Note that tablets can be halved for more accurate dosing, while capsules cannot.

How much do I weigh?		What dose does the protocol say?			
In pounds	In kilos	0.2 mg/kg	0.3 mg/kg	0.4 mg/kg	0.6 mg/kg
70–90	32–41	6-8 mg	10-12 mg	13-16 mg	19-25 mg
91–110	41–50	8-10 mg	12-15 mg	17-20 mg	25-30 mg
111–130	50–59	10-12 mg	15-18 mg	20-24 mg	30-35 mg
131–150	60–68	12-14 mg	18-20 mg	24-27 mg	36-41 mg
151–170	69–77	14-15 mg	21-23 mg	27-31 mg	41-46 mg
171–190	78–86	16-17 mg	23-26 mg	31-35 mg	47-52 mg
191–210	87–95	17-19 mg	26-29 mg	35-38 mg	52-57 mg
211–230	96–105	19-21 mg	29-31 mg	38-42 mg	58-63 mg
231–250	105–114	21-23 mg	32-34 mg	42-45 mg	63-68 mg
251–270	114–123	23-25 mg	34-37 mg	46-49 mg	68-74 mg
271–290	123–132	25-26 mg	37-40 mg	49-53 mg	74-79 mg
291–310	132–141	26-28 mg	40-42 mg	53-56 mg	79-85 mg

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**Note of caution on elderberries**

A number of authors have suggested that elderberries should be used with caution in patients with autoimmune diseases as well as in patients receiving immunosuppressive drugs. While the data is somewhat contradictory, the predominance of evidence suggests that elderberries have anti-inflammatory properties. This suggests this nutraceutical is likely safe in patients with autoimmune disease when used for two weeks or less. However, such patients need to monitor their symptoms closely.

**Note on cost of Nitazoxanide**

It should be noted that while Nitazoxanide is relatively cheap in most countries (approx. \$0.31 per tablet), the main distributor in the U.S. (Alinia™) charges exorbitant prices (> \$500 for 6 tablets). We therefore suggest ordering from a compounding pharmacy in the U.S. or from a reliable pharmacy abroad.