# ACUTE VIRAL PROTOCOL

designs for health®

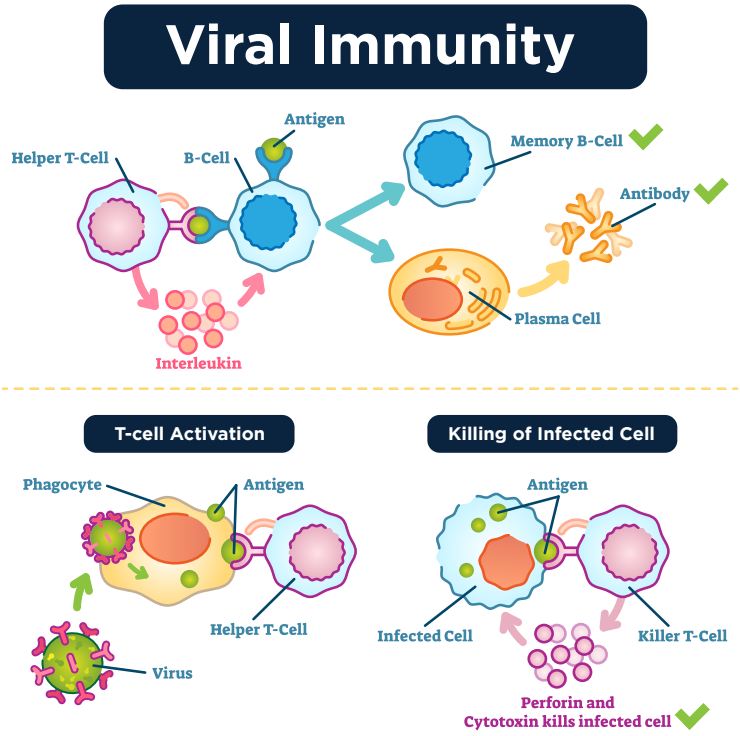
CLINICAL PROTOCOL FOR ACUTE VIRAL INFECTION*

## Acute viral infection

Numerous viral agents are capable of causing acute, significant illness in patient populations. Communicable pathogens can spread rapidly especially in vulnerable populations such as children and the elderly. When prodome appears, quick response and proactive measures can significantly influence severity and duration of infection, as well as reduce risk for tranmission.

A variety of herbs, botanicals, and nutrients possess robust antiviral properties, and can improve immune function in the presence of viral challenge.*

Basic preventive measures, such as those detailed below, as well as the application of targeted nutritional compounds provide defensive strategies for supporting immune response against acute infection.




## Basic Preventive Measures

When a community virus strikes, recommending some basic behavioral and barrier strategies to patients is warranted, especially if they are traveling and have to be in the presence of a dense populations (ex. airports, planes, railways, public transportation, etc.) who may be from geographically disperse areas.

If the virus spreads by droplets, encourage patients to sneeze into the crook of their arm at the elbow, following up with hand sanitizer. Most common viruses are not viable outside of a living host (a few hours on average), however that still leaves a window for infection.

Masks are generally a wise idea, as they provide a basic physical barrier against the spread of communicable pathogens. Medical grade masks or N-95 rated masks are effective when used properly. If infection is already present, counsel patients to rest, avoid contact with others, push fluids (with meat and vegetable stocks, simply cooked fish and vegetables, cooked fruits and copious amounts of water).

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## Herbs, Nutrients, and Botanicals

Garlic is in a family of plants noted to contain a protein lectin that has been shown to inhibit most common viruses. Fresh, crushed garlic appears to have some anti-infective effects in the mouth and throat, but also exhibits strong activity in the lungs. Onions and leeks also have this anti-viral protein.[1]*

Elderberry is a medicinal plant with a long tradition of use as an effective antiviral. As with garlic, some of elderberry's actions may be due to its ability to adhere to neuraminic acid on outer cellular membranes. Neuraminic acid is often used as a point of attack by viruses to attach to the cell using an enzyme they make called neuramididase, which allows them to drill through the outer cell membrane and access the intracellular space. Elderberry has been shown to block neuramidadase, making it potentially effective for many viruses.[2]*

One additional well-studied medicinal herb that may play an important role in mitigating the severity of viral infection is *Andrographis paniculata*, which has an extensive research basis for supporting symptomatic relief of acute respiratory tract infections in adults.[3]*

## Therapeutic Diet and Nutrition Considerations

- Recommend a foundational dietary plan that emphasizes micronutrients essential to optimal immune system function:
  - Zinc – seafood, pumpkin seed, sea vegetables, and beans, lentils and legumes
  - Vitamin D – salmon, fatty fish, egg yolks, cheese (if tolerable), mushrooms
  - Vitamin C – oranges, papayas, strawberries, kiwi, organic leafy green vegetables (spinach, bok choy, kale), broccoli, bell peppers
  - Vitamin A - liver, cod liver oil, mackerel, salmon; beta-carotene: sweet potato, winter squash, kale, collards, carrots
- Recommend consumption of fresh garlic - crush garlic and wait up to 60 seconds to enhance formation of allicin
- During active viral infection, direct patients to maintain adequate hydration
- Guide patient to reduce dietary sugar & alcohol intake
- Optimize omega-3 fatty acid composition of diet to support patient anti-inflammatory status
- Support patient protein status (RDA: 0.8 grams per kilogram (g/kg) of body weight a day. Higher protein intake may be warranted, and can be achieved by supplementing with high-quality protein powders. Whey protein supplementation has been shown to increase glutathione levels, further supporting immune and antioxidant protection.

## Lifestyle Interventions

- Promote sleep hygiene to ensure adequate quantity and quality of restorative rest
- Reduce patient allostatic load via stress management techniques. Consider meditation, breath work, biofeedback.
- Recommend a balanced physical activity routine to avoid excess exercise during times of immune challenge

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## Supplement Protocol

*Primary Support:*

### Immunitone Plus™

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|---|---|
| **Dose** | 2 capsules per day with meals; *4 capsules per day with meals for advanced support* |
| **Duration** | Daily to support robust immune function; suitable for long term use and for all age groups |
| **Formula Highlights** | Immunitone Plus™ is an herbal formula that is designed to support healthy immune system function during cold and flu season.* It contains herbs that support normal natural killer (NK) cell activity and the balance of cytokines, which are the regulatory proteins released by immune cells as part of a normal immune system response.* The standardized herbs in this formula contain optimal and consistent amounts of the most active ingredient. |

### Immunoberry™ Liquid

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| **Dose** | 1 dropperful per day; 1 dropperful twice per day for advanced support |
| **Duration** | Throughout cold & flu season and/or until active infection has resolved |
| **Formula Highlights** | ImmunoBerry™ Liquid provides immune support in a pleasant tasting liquid, with the key ingredients elderberry, shiitake, and wild cherry bark - all known for their beneficial effects in supporting a healthy immune system.* |

### Zinc Supreme™

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| **Dose** | 1 capsule per day; 1 capsule twice per day for advanced support |
| **Duration** | Daily for immune function support; regular dosing for protection during cold and flu season |
| **Formula Highlights** | Zinc Supreme™ is made with chelated minerals by Albion Advanced Nutrition, the leader in mineral technology. They are ideal chelates with a 2:1 molar ratio of two amino acids of glycine chemically bonded in liquid to one mineral ion of zinc or molybdenum for optimal absorption. |

### Monolaurin-Avail™

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| **Dose** | 2 caps per day |
| **Duration** | Throughout cold & flu season and/or until active infection has resolved |
| **Formula Highlights** | Monolaurin-Avail™ is an encapsulated formula of monolaurin (glycerol monolaurate), a form of lauric acid. This product is designed to offer potent support for immune health without adverse effects on beneficial intestinal flora. It contains vitamin C for added immune benefit, and sunflower lecithin to enhance absorption of the monolaurin.** |

## Supplement Protocol

*Adjunct Support (optional):*

### Silvercillin™

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| **Dose** | 1 Tbsp twice per day |
| **Duration** | Throughout cold & flu season and/or until active infection has resolved |
| **Formula Highlights** | Silvercillin™ is an effective preparation of pure silver complexed with purified water, which exhibits antimicrobial properties.* |

### Allicillin™

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|---|---|
| **Dose** | 1 softgel twice per day |
| **Duration** | Throughout cold & flu season and/or until active infection has resolved |
| **Formula Highlights** | Allicillin™ softgels contain 200 mg of Garlicillin®, a blend of garlic oil and parsley oil with specified levels of garlic sulfides and ajoene, highly bioactive compounds formed from garlic. |

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

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## Common Herb/Nutrient - Drug Interactions

Major Drug Interaction: Tizanidine ⇄ Echinacea

- Generally avoid: Coadministration with inhibitors of CYP450 1A2 may significantly increase the plasma concentrations and pharmacologic effects of tizanidine, which is a sensitive substrate of the isoenzyme.[4]

Major Drug Interaction: Echinacea ⇄ Rasagiline

- Adjust dose: Coadministration with inhibitors of CYP450 1A2 may increase the plasma concentrations of rasagiline, which is primarily metabolized by the isoenzyme.[5]

Major Drug Interaction: Caffeine ⇄ Echinacea

- Monitor: Coadministration with echinacea may increase the plasma concentrations and the risk of adverse effects of drugs that are substrates of CYP450 1A2. The proposed mechanism is decreased clearance due to echinacea-mediated inhibition of CYP450 1A2. Echinacea has been shown to increase the plasma levels of caffeine, a CYP450 1A2 substrate, by approximately 30%.[6]

Major Drug Interaction: Andrographis

- Anticoagulants (Andrographis may slow blood clotting)
- Immunosuppressants (Andrographis increases immune system activity)
- Antihypertensives (Andrographis may decrease blood pressure)

Major Drug Interaction: Hesperidin

- Antihypertensives (Hesperidin may decrease blood pressure)
- Anticoagluants (Hesperidin may slow blood clotting) Anticoagulants (Andrographis may slow blood clotting)

**This list highlights common Herb/Nutrient-Drug interactions and should not be considered exhaustive. All concomitant drugs and supplements should be assessed by a qualified health care practitioner familiar with the patient's medical history.**

### References:


1.http://catalog.designsforhealth.com/assets/itemresources/Allicillin_References.pdf
2.http://catalog.designsforhealth.com/assets/itemresources/ImmunoBerry_References.pdf
3.http://catalog.designsforhealth.com/assets/itemresources/ImmunotonePlusReferences.pdf
4.https://www.drugs.com/drug-interactions/echinacea-with-tizanidine-955-0-2205-0.html
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6.https://www.drugs.com/food-interactions/echinacea.html



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