Standard Process
WHOLE FOOD NUTRIENT SOLUTIONS

Nutritional Support Protocol

Support for Lower Respiratory Tract Immune Function

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

Lower Respiratory Tract Health and Function

The lower respiratory tract – including the trachea, bronchi, bronchioles, and lungs – are designed to facilitate gas exchange and defend against pathogens. The immune function of the lower respiratory tract relies on a combination of physical barriers, innate and adaptive immune responses, and regulatory mechanisms to protect respiratory and systemic health.

Physical barriers in the lower respiratory tract include cilia and mucus produced by goblet cells in the airway epithelium; these structures trap and move pathogens upward and outward. The innate immune response involves the activity of macrophages and surfactant proteins within the alveoli and neutrophils migrating to the site of infection. The adaptive immune response activates lymphocytes in response to specific pathogens. Cytokine release coordinates the immune response which is tightly regulated to prevent uncontrolled respiratory tract inflammation.

Lower respiratory tract infections like bronchitis and pneumonia are a common source of morbidity and mortality worldwide. Environmental exposures, smoking, immune-compromised individuals, and the presence of chronic lung conditions like COPD and asthma increase the risk of acute infections.

Lifestyle and nutritional interventions can support a healthy response of the lower respiratory tract immune cells and promote healthy mucociliary activity, a balanced cough reflex, and cellular repair processes.

Supportive Lifestyle Practices

Consider implementing positive expiratory pressure (PEP) therapy techniques like bubble or bottle blowing to improve outcomes in patients with lung conditions. PEP therapy improves sputum clearance and has been shown to shorten hospital stays in patients with pneumonia.[1,2]

Salt therapy can help relieve symptoms and improve functional parameters in lower respiratory conditions.[3] Aerosolized sodium chloride particles are antibacterial and anti-inflammatory and facilitate mucociliary transport.[4] Inhalation of sodium chloride is typically achieved via nebulized saline, a salt pipe, or a salt room.

Whole Food Nutritional Recommendations

Encourage patients to cook with ginger root. Polysaccharides in whole ginger root support a healthy immune system response in the respiratory tract.[5] It can modulate inflammation via cyclooxygenase-1 (COX-1) and balance cytokine production released at infection sites while maintaining antigen presentation.[6] Ginger can also help promote a healthy and balanced cough reflex.[6]

Recommend that patients add raw and aged garlic to their food to support respiratory health. Garlic contains several bioactive compounds – like allicin – that support a healthy immune response to respiratory pathogen activity and healthy mucociliary clearance.[7] Allicin is a volatile substance that modulates the immune response in the gas phase, making it particularly useful for lung health.

Emphasize the importance of consuming foods high in vitamin D such as fatty fish, egg yolks, mushrooms, liver, and fortified foods such as milk. Vitamin D supports the respiratory immune response and influences respiratory tract microbiota.[8,9] It helps to modulate the activity of pathogens and promotes epithelial cell health and function.[9]

Dietary Supplement Regimen

Congaplex®

Suggested Use: **3 capsules per meal**

Congaplex® is used for support of the immune system.*

- Supports healthy immune system response function*
- Supports the thymus gland*
- Contains ribonucleic acid, which the body uses for protein synthesis
- Contains a combination of key ingredients from Cataplex® A-C, Thymex®, Calcium Lactate®, and Ribonucleic Acid (RNA)
- Excellent source of antioxidant vitamin A

Cataplex® D

Suggested Use: **2 tablets per day**

Cataplex® D is a vitamin D supplement providing 40 mcg (1,600 IU) of vitamin D.

- Supports healthy immune system response function*
- Provides vitamin D, which is needed by almost every cell in the body for development and transcription.*
- Excellent source of vitamin D and antioxidant vitamin A

Broncafect®

Suggested Use: **2 tablets 2-4 times daily**

Broncafect® is an immune-supporting cough reflex support formula containing Licorice, Pleurisy Root, Echinacea, White Horehound, Ginger and Thyme essential oil.*

These herbs have been traditionally used in herbal preparations to:

- Support healthy respiratory tract function*
- Support the body's natural ability to break up respiratory secretions by supporting normal mucus flow*
- Support the body's normal cough reflex*
- Support healthy immune system function*
- Assist the body in maintaining normal body temperature already in a normal range*

Garlic

Suggested Use: **2 capsules per day**

Garlic is traditionally used in herbal preparations to support healthy mucus function within the respiratory tract.*

Assessment of Lower Respiratory Tract Health

In Office/Physical Exam

- Vital signs with pulse oximetry
- Physical Exam: Inspection, palpation, percussion, and auscultation of lungs and heart, assessment of overall clinical appearance
- Chest x-ray
- Signs/Symptoms such as cough, shortness of breath, dyspnea, tachypnea, fever, chest pain, fatigue, cyanosis, and altered mental state
- Lab Studies: complete blood count with differential (CBC), testing for specific pathogens, consider sputum culture

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*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

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