Flu Season & Immune System Support

Many people are concerned about the bird flu and the possibility of having another devastating flu visit us again such as in the 1918 pandemic. The best thing to do if you are one of these concerned individuals is to take out insurance in the form of a healthy immune system. A healthy immune system is your best insurance against any type of virus including the flu virus. This ezine will examine various components of the immune system and how you can support your immune systems innate ability to protect you from the flu.

Influenza - What is it?
Influenza or Flu for short is a viral respiratory infection with an influenza virus causing fever, coryza (profuse nasal discharge), cough, headache, malaise (vague body discomfort), and inflamed respiratory membranes.

Influenza produces respiratory illness in the fall and winter each year in temperate climates. New strains of virus arise constantly. If you have immunity from prior exposure or immunization to one strain it does not protect you from another strain. Every 3-5 years there is a severe epidemic. The highest prevalence of infection is in school age children. There is often two waves of this seasonal epidemic. The first in school age children and their household contacts, followed by a second wave of shut-in persons in semi-enclosed institutions (usually elders).

The flu is spread by airborne droplets, person to person contact, or contact with contaminated objects. Air travel is thought to increase transmission through prolonged contact in tight quarters with infected people. It may also seed and transport new strains to distant areas.

The people at highest risk of complications are those with chronic pulmonary diseases, valvular heart disease or other heart disease with pulmonary edema. The elderly, the very young, the bedridden and pregnant women in the 3rd trimester are also at increased risk of severe disease with increased fatality.

The virus incubates for 48 hours after infection. It replicates in the respiratory tract. In mild cases (in a person who is immune or resistant) the symptoms are like those of a cold. In normal flu progression there are sudden chills and fever of 102-103 degrees. The person is usually prostrate and has generalized aches and pains (especially in the back of the legs). Headache is normal with photophobia and aching behind the eyes. At first the respiratory symptoms may be mild with a scratchy sore throat, burning in the chest and a nonproductive cough.

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cough. The lower respiratory symptoms become dominant later. The skin is warm and flushed usually. The eyes water easily and the conjunctiva may be mildly inflamed. Nausea and vomiting may exist, but usually only in children. The acute symptoms disappear quickly after 2-3 days. The fever usually ends but can last up to 5 days without complications. Weakness, sweating and fatigue may continue for several days or sometimes for weeks. Hemorrhagic bronchitis or pneumonia may occur and rapidly progress. Fulminant, fatal pneumonia may be viral, bacterial or mixed. When this occurs symptoms of dyspnea (shortness of breath), and bloody sputum from pulmonary congestion and edema may cause death in as little as 48 hours after it’s onset. This usually occurs in more susceptible persons with cardiac or pulmonary weakness and in pandemics caused by a new influenza A serotype.

Secondary bacterial infection of the bronchi and lungs, most often associated with pneumococcus or staphylococcus, is noted by persistant or recurrent fever, cough and other respiratory symptoms in the second week. With the development of pneumonia you see a worsened cough, purulent (containing pus) or bloody sputum. Crepitant or subcrepitant rales are heard with auscultation.

There may be other complications but they are infrequent and will not be covered here.

So, with this knowledge behind you, the best thing to do is prevent the flu from occuring by staying away from populations of people who may be at high risk for carrying the virus as well as washing your hands well when around those at high risk, and wearing a mask if in closed quarters with infectious individuals. We will examine ways to support your immune system to prevent the virus from taking hold in your respiratory tract if you are exposed.

### Components of the immune system

#### Immune system proper

The immune system consists of lymphatic vessels and organs (tonsils, thymus, lymph nodes, appendix, spleen), white blood cells (lymphocytes, monocytes, neutrophils, basophils, eosinophils etc.), specialized white blood cells which are in tissue rather than the lymph or blood stream (macrophages, mast cells etc.), as well as special serum factors.

#### Other organs affecting the immune system

The immune system can be influenced by other bodily processes. Blood brings nourishment to all the cells of the body. The blood vessels also act as a channel for movement of white blood cells. The blood and lymph vessels both carry cellular waste products away. The lymph system carries metabolic cellular waste away from the tissues and also acts as a freeway for travel of white blood cells. The immune system depends on the excretory organs to clear the body of foreign invaders or waste products. The kidneys, liver, skin, lungs and intestines are all excretory organs involved in this process. The liver is an important gate keeper for foreign invaders as well as metabolizing harmful agents into useful material or into a form which can be excreted from the body. The liver metabolizes compounds made by the body as well as chemicals from outside the body into substances which can be excreted. The liver transfers some of these substances into the intestines via the bile. In the colon these products are transported out of the body in the feces. Other substances are made water soluble and go to the kidneys. The kidneys excrete a large proportion of water soluble waste from the blood. The lung breathes out gases which have been dissolved in the blood. The skin also excretes soluble substances in the sweat.

Additionally our emotions play a large part in how our immune system works. Our emotions affect our nervous system and endocrine system which in turn effects most bodily functions. Strong emotions of a stressful nature can depress the immune systems activity. Emotions of happiness and contentment can support the immune system. People watching funny movies have been shown to have an enhanced immune system for 12 hours after watching the movie.

#### Function of immune system:

The immune system is the gate keeper between our body and the environment. It protects the body from infections, parasites, cancer and basically anything which it views as other than the body that it serves. The immune system can be divided into two categories called cell-mediated immunity and humoral immunity.

1. Non-specific immunity/Cell-mediated: This type of immunity reacts to broad groups of insults to the body. Barriers such as the skin, cilia in the lungs, lysozymes in the tears would all be part of the non-specific immunity. Non-specific immunity also involves specialized cells in the blood and other tissues which attack alien invaders in general. Usually the method of attack is phagocytosis.
In phagocytosis, the cell eats the invader and dissolves the invader with enzymes which digest the foreign agent. This is called cell-mediated immunity and involves a response to a specific organism or chemical. The cell reacts directly with the foreigner by destroying the foreigner with non-phagocytic cells. It is effective against intracellular viruses, certain bacteria (TB, leprosy, syphilis, brucellosis and lyme disease), tumors, fungi, organ grafts, protozoans and antigens deposited in the skin (such as chemicals).

2. Specific or acquired immunity/Humoral immunity: This type of immunity recognizes and reacts to specific foreign agents rather than all foreign agents. This is the part of the immune system which involves antibodies. This humoral immunity involves the formation of antibodies against specific alien invaders. When an invader appears again in the future, the body will recognize it and produce the antibody for that specific foreign agent. Effective against bacteria and most circulating viruses and bacterial toxins.

Things which can effect your immune system are:

• Age - the very young and very old can have a decreased immune system reaction.
• Nutritional Status - Good nutritional support is necessary to a proper functioning immune system.
• Genetics - We are born with a more or less effective immune system and have to deal with the cards we are dealt.
• Medications - corticosteroids, immunosuppressives used in transplant surgery and other drugs may decrease the immune systems activity.
• Environment - There may be environmental factors in the home or work environment that can effect the immune system.
• Radiation - Given during cancer therapy, diagnostic imaging or due to environmental disasters, radiation can decrease or stop the production of white blood cells temporarily.
• Stress - Chronic stress can decrease the immune systems activity due to endocrine system effects.
• Chronic wasting diseases such as cancer and TB as well as immunodeficiency diseases such as HIV can negatively effect the immune system.
• Mental/emotional outlook - The ability to be content, happy and to be able to roll with the punches has been shown to enhance the bodies immunity.

**Nutritional, Herbal & Lifestyle Recommendations For Prevention of the Flu**

The immune system needs nourishment from the food we take in. It is dependent on a healthy lifestyle for optimum functionality. Healthy food, a safe environment, sunshine, clean air, healthy water, exercise, prayer/meditation and a fulfilling life are necessary for optimum immune system function. Nutritional products and herbs can be used to support the normal function of the immune system. Some basic nutritional information as well as some of the more popular herbs are listed below.

Healthy eating is one of the fundamentals necessary to support your immune system. Eat the right foods and be conscious about the quality of food you are consuming. There are antibiotics and steroids in non-organic meat and dairy products that may effect your immune system. Only eat high quality meat and dairy from healthy animals. Your immune system can not function properly without adequate protein. Pesticides and herbicides in non-organic vegetables may also effect your immune system.

Carotenoids (as well as other flavonoids) in carrots, yams, squash, tomatoes, melons, calendula flowers, dandelion flowers, elecampane flowers, green leafy vegetables are beneficial.

Carotenoids protect phagocytes from auto-oxidative damage, enhance T- and B-lymphocyte proliferation responses, stimulate effector T cell functions, enhance their cytotoxic capabilities and stimulate macrophage and NK cell activities and increase production of certain interleukins. They also protect lipids in the cell wall from damage.

Eat wild foods which are nutritious and immune-supportive such as plantain, cleavers, chickweed, stinging nettles (cooked only): many of these herbs can be used in stir fries, soups, or juiced. The stinging nettles should be cooked due to the possibility of being stung otherwise. The chickweed is great in salad. Plantain and cleavers are best juiced. These vibrant green wild foods support our bodies via their vitamins, minerals, enzymes and ways we yet
have to discover.
Foods such as beets and other root vegetables as well as fall greens are helpful for nutritional support to the immune system. Eating antioxidants in your fresh fruits and vegetables is very helpful. All brightly colored foods have antioxidants in them. The top 5 antioxidants from a USDA study of 100 plants with antioxidants was as follows:
5. Blueberries (cultivated)
4. Pinto beans
3. Red kidney beans
2. Blueberries (wild)
1. Small red beans (dried)
It is best to use foods grown without chemicals and drugs. Dairy products can cause a wide range of problems that affect the immune system. This may be due to an allergy to the milk sugar or protein in the milk or it can simply be due to the use of pasteurized milk. If you want to use milk products, the best milk to use for most people is fresh, organic, raw goat milk.

It is best to avoid all hydrogenated oils and polyunsaturated vegetable oils. These oils result in the production of free radicals which directly impact the immune system. Use olive oil, and butter as cooking oil/fat and get essential fatty acids by adding flax and fish oils to the diet as well as eating fish and nuts. Also avoid excessive amounts of sugary foods, food additives, preservatives, artificial flavors, excess iron, low nutrient, refined food diets, pesticides, herbicides, antibiotics and hormones in food, contaminated water, prescription drugs, recreational drugs (including coffee and chocolate).

Other things to be wary of are heavy metals, and radiation. Additionally decrease emotional/mental stress and do things to make yourself happy. Wash your hands regularly, especially if around others with infectious conditions. A friend of mine, Paul Bergner finds smudging oneself to be helpful after being exposed to the flu.

Nutritional, Herbal & Lifestyle Recommendations For the Person with the Flu

Use the same suggestions as given in prevention of the flu.
Additionally:
• Use herbs in the categories that follow as they are needed. Immunomodulators can be used at any time to prevent or treat the flu.
• Start treating yourself for the flu the moment you think you are coming down with it or even after exposure to get the best results.
• Eat healthy brothysoups such as chicken and rice soup or miso broth
• Eat lots of fresh garlic in foods or by itself.
• Use vitamin C to bowel tolerance (the amount that makes the stools loose, then back off slightly)
• Get a lot of sleep and rest.
• Don’t get up and go back to work or school immediately when you start to feel well. Let yourself rest for a couple extra days so you don’t relapse.
• Avoid sugary foods completely, and drink lots of water

Herbs for the Immune System

Lymphagogues are herbs which stimulate lymphatic activity. They will help to move cellular debris out of the body. Alteratives are herbs which stimulate the blood as well as the skin and liver in their respective eliminatory functions. Herbs in these categories can be very beneficial to immune system support by assisting in removal of cellular waste, chemical toxins or microbes from the body. Immunomodulators support the immune system activity while antivirals specifically have been shown to be beneficial at preventing or treating illnesses associated with viruses. Anticatarrhals decrease excess mucus and diaphoretics reduce fevers. Antibacterials are used for bacterial associated illnesses and are useful if you get a bacterial infection superimposed on top of the viral infection. Many of the deaths in the 1918 flu pandemic were due to bacterial pneumonias superimposed on top of the flu. Many of the herbs listed below can be found in more than one category.

Alterative: An agent which enhances the process of nutrition and repair to the bodily tissues, promoting healthy changes in the organism. Also called blood and lymph cleansers. Additionally may be called tonics.
Examples: Burdock (Arctium lappa), Cleavers (Galium aparine), Echinacea (Echinacea spp.), Nettles (Urtica dioica), Oregon grape root (Mahonia spp.), Red Clover (Trifolium pratense), Sarsaparilla (Smilax spp.), Yellow dock (Rumex spp.)

Lymphagogue: An herb which supports the lymphatic organs or stimulates activity of the lymph system.
Examples: Burdock (Arctium lappa), Calendula (Calendula officinalis), Cleavers (Galium aparine), Flag (Iris versicolor), Mullein (Verbascum thapsus), Ocotillo (Fouquieria splendens), Poke root (Phytolacca decandra), Queen’s root (Stillingia sylvatica), Red clover (Trifolium pratense), Sarsaparilla (Smilax spp.), Yellow dock (Rumex spp.)

Immunomodulator: Agent which enhances the body’s natural defense system to assist in infectious conditions or other situations which tax the immune system, such as invasive tumors. These herbs act in various ways to promote different aspects of the immune system as well as support of anatomical functions such as decreasing mucous, tightening up lax tissues and decreasing inflammation so the tissues are better capable of protecting themselves from invasive organisms.
Examples: Ashwaganda (Withania somnifera), Astragalus (Astragalus membranaceus), Calendula (Calendula officinalis), Cedar (Thuja spp.), Echinacea (Echinacea spp.), Elecampane (Inula helenium), Flag (Iris versicolor), Garlic -fresh (Allium sativa), Ginger (Zingiber officinalis), Goldenseal (Hydrastis canadensis), Hyssop (Hyssopus officinalis), Lomatium (Lomatium dissectum), Oregon grape root
(Mahonia spp.), Osha (Ligusticum porteri), Paracress (Spilanthes acmella), Poke root (Phytolacca americana), Prickly ash (Zanthoxylum clava-herculis), Propolis, Red root (Ceanothus americanus), Wu wei zi (Schisandra chinensis), Yerba mansa (Anemopsis californica), Wild indigo (Baptisia tinctoria)

**Anticatarrhal:** Decreases the production of mucus from the mucous membranes. Because mucus is a natural and necessary body defense. When the body is producing mucus due to an acute healing action such as a cold or flu, it is better to thin the mucus, rather than to stop it.

Using teas can be helpful when there is sinus congestion. The inhalation of the vapors from the tea are medicinal. Inhaling them draws them into the lungs and sinuses allowing direct mucosal contact with essential oils. This is a type of vapor inhalation while at the same time ingesting the medicine. A vapor inhalation can also be made separately from the ingested herbs. Most of the herbs that contain essential oils will be useful as a vapor inhalation. Vapor inhalations are wonderful for mucus in the bronchioles and sinuses. This application allows for the essential oils to make direct and immediate contact with the inflamed mucous membranes.

These herbs are often either anti-inflammatory or astringent and drying in nature. They decrease mucus. The end result is that inflammation, mucus, and congestion are lessened.

**Examples:** Boneset (Eupatorium perfoliatum), Elder (Sambucus canadensis/nigra), Garlic (Allium sativa), Goldenseal (Hydrastis canadensis), Hyssop (Hyssopus officinalis), Ma huang (Ephedra sinica), Mullein (Verbascum thapsus), Oregon grape root bark (Mahonia spp.), Osha (Ligusticum porteri), Sage (Salvia officinalis), Thyme (Thymus vulgaris), Yarrow (Achillea millefolium)

**Expectorants** Fresh mucous excreted from the respiratory tract is usually thin, free flowing and easy to expectorate. Thick mucous builds up when the secretions are scanty due to dehydration or when there is cellular exudate. Expectorants are herbs which help expel bronchial secretions from the respiratory tract by decreasing their viscosity, and increasing the amount of respiratory tract fluid. Without adequate hydration no amount of herb is going to increase the fluidity of the respiratory secretions. Constituents in plants which have expectorating action include saponins, resins, volatile oils, alkaloids, isothiocyanate glycosides, phenolic glycosides.

**Irritating Expectorants:** It is thought that these types of expectorants irritate the bronchioles and this causes increased secretions. This is thought to be a direct irritating effect on bronchial mucosa when some constituents are excreted by the respiratory tract for removal from the body causing the bronchial secretory cells to increase their production of free flowing mucus.

**NW Herb Fest**

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$145.00 if paid prior to May 1st, $165-$185 after

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A herb conference which offers classes for the budding herbalist, & the seasoned herbalist in one weekend!
They are thought to increase the amount of mucus and thin it making it easier to remove from the lungs. They are used when the mucus is thick and will not come up very easily. They are specific for productive coughs which have thick, ropey, yellow, green or blood tinged sputum, or phlegm and it is hard to cough up.

**Irritating Expectorants examples:**
Elecampane (Inula helenium), Flag (Iris versicolor), Horehound (Marrubium vulgare), Lomatium (Lomatium dissectum), Osha (Ligusticum porteri), Popular buds (Populus spp.), Propolis, Thyme (Thymus officinalis), Violet (Viola spp.), Yerba santa (Eriodictyon californicum).

**Soothing & Relaxing Expectorants:**
Herbs in this category help when there is a lot of irritation and the mucus is thick and there may be a dry irritated cough or spasmodic cough. One mechanism is thought to partly be due to a gastric reflex via the vagus nerve such as with ipecacuanha.

**Soothing and Relaxing Expectorant examples:**
Licorice (Glycyrrhiza glabra), Marshmallow (Althea officinalis), Hyssop (Hyssopus officinalis), Lobelia (Lobelia inflata), Plantain (Plantago spp.), Slippery elm (Ulmus spp.), Sundew (Drosera rotundifolia), Thyme (Thymus vulgaris), Usnea spp., Violet (Viola spp.)
The Thyme is relaxing and especially useful for spasmodic coughs as is Usnea. Neither of these herbs are soothing however.

**Antibacterial:** Destroys or suppresses growth of bacteria. These are useful if you get a bacterial infection superimposed on top of the viral infection. The most common being a bacterial pneumonia.

Examples: Clove (Syzygium aromaticum), Eucalyptus (Eucalyptus spp.), Garlic- fresh (Allium sativa), Calendula (Calendula officinalis), Goldenseal (Hydrastis canadensis) Echinacea (Echinacea spp.), Elecampane (Inula helenium), Horseradish (Armoracia rusticana), Lomatium (Lomatium dissectum), Lungwort (Sticta pulmonaria), Myrrh (Commiphora myrrha), Oregon grape (Mahonia spp.), Thyme (Thymus vulgaris), Wild indigo (Baptisia tinctoria), Old man’s beard (Usnea spp.), Yarrow (Achillea millefolium)

**Antiviral:** Destroys or suppresses growth of viruses, generally by supporting the immune system .

Examples: Astragalus (Astragalus membranaceus), Cedar scales (Thuja spp.), Echinacea (Echinacea spp.), Garlic -fresh (Allium sativa), Hyssop (Hyssopus officinalis), Licorice (Glycyrrhiza glabra), Lomatium (Lomatium dissectum), Oregon grape root (Mahonia spp.), Osha (Ligusticum porteri), Paracress (Spilanthes acmella)

**Diaphoretics:** Another category of herbs that is of prime impor-

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**Intensives**

**With David Hoffman B.Sc., F.N.I.M.H. & Chanchal Cabrera MSc, MNIMH, AHG**

David Hoffman and Chanchal Cabrera will be teaching 3 hour intensives at Wise Acres Educational Center on Sunday July 23 and Monday July 24th. These intensives follow the conference but are separate from the conference. Topics are 1)Treatment Protocols, 2) Clinical Approaches to Preventing and Treating Cancer. Contact us or see our web site for further information.

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**Following NW Herb Fest**

The Thyme is relaxing and especially useful for spasmodic coughs as is Usnea. Neither of these herbs are soothing however.

**Diaphoretic herbs:** An agent that induces perspiration. Used in febrile conditions.

**Preparations:** Diaphoretics can be prepared in any manner, however it is helpful to give them as a hot tea. The hot beverage will increase the diaphoretic activity. The liquid in the tea will help replenish the fluid lost through perspiration.

**Actions:** Herbs in this classification are divided into two types of subsets; relaxing and stimulating diaphoretics.

**Relaxing diaphoretics** will cause vasodilation of the peripheral capillaries and relax the sweat glands. This kind of diaphoretic is used when there is dry hot skin with a fever. Relaxing diaphoretics
are usually used in acute situations.

**Stimulating diaphoretics** are used for when the sweat glands and capillaries have no tone. The skin is pallid and cold, the skin may be puffy, perspiration is usually cool, moist and mostly on the palms of the hands. This condition is seen when someone faints or is in shock. It can also be found occasionally with chronic illness. It is more common to see cases for relaxing diaphoretics with the flu.

Some diaphoretics actually appear to have both qualities.

**Indications For Use of relaxing diaphoretics:** Acute respiratory tract infections such as pneumonia are the most common time to use relaxing diaphoretics. Any febrile situation where the person has dry skin or is not sweating as much as you would expect. Their skin is hot to the touch, they have a fever, their pulse is often more full than usual and their blood pressure is elevated.

**Indications For Use of stimulating diaphoretics:** The stimulating diaphoretics are more often used in a subacute or chronic situation where the person is cold and may seem puffy and congested. Their skin is cool or at least not hot. They may have a rapid and hard pulse. You can see this state quite often in the common cold.

Examples of relaxing diaphoretics for overcontracted tissues:
- Boneset (Eupatorium perfoliatum)
- Elder (Sambucus nigra/canadensis)
- Linden flower (Tilia spp.)
- Lobelia inflata (Lobelia)
- Pleurisy root (Asclepias tuberosa)

Examples of stimulating diaphoretics for overrelaxed tissues:
- Catnip (Nepeta cataria)
- Cayenne (Capsicum spp.)
- Malanga (Ephedra sinica)
- Ginger (Zingiber officinale)
- Hyssop (Hyssopus officinalis)
- Osha (Ligusticum porteri)
- Peppermint (Mentha piperita)
- Prickly ash (Xanthoxyllum clava-herculis)
- Thyme (Thymus vulgaris)
- Yarrow (Achillea millefolium)

Boneset, Elder, Yarrow are some of my favorites for the flu.

**Contraindications:** In all cases when diaphoretics are being used, fluid needs to be monitored carefully and replaced as needed. If the person is dehydrated such as a person who has adrenal insufficiency, fluid needs to be monitored and replaced more carefully than usually to make sure the person stays hydrated.

**Herbs for prevention & Treatment**

**Astragalus** Traditional Chinese medicine uses this herb for night sweats, deficiency of chi (Indicated by fatigue, weakness, and loss of appetite), and diarrhea. Studies have shown that Astragalus appears to restore T-cell counts to relatively normal ranges, even in cancer patients. This is a good herb to use preventatively. It can be made into a tea or added to a soup.

**Echinacea** (Echinacea purpurea/angustifolia) increases the production and activity of lymphocytes and macrophages. It also increases the production of interferon. Echinacea enhances the immune system’s resistance to infections. Due to its specificity for infectious conditions, it is often used for influenza. The plant contains 3 groups of constituents, high molecular weight polysaccharides, alkylamides and chicoric acid, that are known to act as immunomodulators. As a liquid extract take 1/2 - 1 teaspoon, three times per day for prevention and 1 teaspoon 4-6 times per day for treatment.

**Garlic** (Allium sativum) has antiviral, antibacterial, and antifungal activity. Take a clove of raw garlic per day for prevention or 2-3 times per day for treatment.

**Boneset** (Eupatorium perforatum) is specific for the type of intense flu pains where you ache to your bones. This herb is also a diaphoretic and is best taken as a hot tea although it can be used as a tincture also. You will see it used the same way in homeopathy also. This herb is used for treatment only. Take a heaping tablespoon per cup water, infused 3-4 times per day.

**Yarrow** (Achillea millefolium) is a diaphoretic, astringent, anti-inflammatory, antimicrobial that is wonderful to use in the febrile stage.

**Osha** (Ligusticum porteri) is antiviral, immunomodulator, anti-cattarrhal and diaphoretic. I find this herb has a synergistic effect when used with Licorice and Echinacea. It's especially helpful if you have a lot of mucus as it helps dispel the excess mucus with its drying action.

**Elder** (Sambucus nigra/canadensis) This expectorating, antiviral and diaphoretic herb has become popularized with the extensive advertising for the brand name Sambucol that uses a berry extract. Indeed both the berries and the flowers are useful for the flu. I love to use the flowers as a relaxing diaphoretic. They are safe to use...
for children and don't taste bad like Yarrow does. You can make a
tea with both the flowers and berries.

**Vitamin C** elevates interferon levels, which explains its anti-viral
ability. As a preventative 1-3 grams per day is used. For treatment,
take up to bowel tolerance (1-8 grams per day). You can use vitamin
C and add rose hip berries to your teas.

**Zinc** supplements have been shown to increase immune function.
I suggest 25 mg per day for adults and about 15 mg per day for
children. Take the supplement with food to avoid nausea. Zinc has
also been shown to reduce the duration of flu and cold symptoms
from 7.6 to 4.4 days.

**In the beginning of a flu** it is best to use diaphoretics such as
yarrow, or elder flower. (See specifics on diaphoretics) You can
get in a hot bath and sip a hot diaphoretic tea. Then dry off and
hop in bed and sweat. Additionally it is good to take a good im-
mune supportive herbal formula.

### Preventative & Acute Herbal Formula #1

| Echinacea | Echinacea purpurea root | 40-50% |
| Osha      | Ligusticum              | 20-40% |
| Licorice  | Glycyrrhiza             | 15-30% |

**Actions:** Supports the immune system as well as protects against
infectious diseases of a viral nature. It acts as an anti-inflammatory,
antiviral, carminative, stimulates the lymphatic system, supports
the adrenals, thins mucous associated with colds and decreases
congestion. Examples of use are treatment of colds, influenza, and
chronic viral fatigue. It can be helpful in many situations where the
immune system is under stress. Although this formula is used as
a general immune supportive formula, it is specifically helpful for
viral respiratory infections and can be used preventatively.

**Liquid extract dosage**
- **Dosage - acute:** Use 40-120 drops in a little water, 3-5 times per day.
- **Dosage - preventative:** Use 30-40 drops in a little water, 3 times per day.

**Tea dosage**
- **Dosage - acute:** Use 2 heaping teaspoons per cup water, 3-4 times per day.
- **Dosage - preventative:** Use 1 teaspoon per cup water, 3 times per day.

**Contraindications, Cautions and Words of Wisdom:** Chronic
large doses of licorice can mimic aldosteronism by increasing
sodium resorption and potassium excretion by the kidney. Avoid
using with pre-existent hypertension. The symptoms of pseudoal-
dosteronism are hypertension, edema and hypokalemia.

### Acute Herbal Formula #2

| Echinacea | Echinacea purpurea root | 25-40% |
| Osha      | Ligusticum porteri      | 20-25% |
| Yerba mansa | Anemopsis californica  | 10-20% |
| Elder flower | Sambucus spp.  | 10-20% |
| Red Root  | Ceanothus spp.          | 10-20% |

**Liquid extract dosage**
- **Dosage - Acute:** Use 60-120 drops, 4-5 times per day. Best used
  by adding to hot water or tea. Can alternatively be put into a small
  amount of water to drink.

**Dosage - Preventative:** Use 20-60 drops, 3-4 times per day. Add to
a small amount of water.

**Tea dosage**
- **Dosage - Acute:** Use 2 heaping teaspoons per cup water 3-4
  times per day. Drink the tea while it is still warm. If you store it
  in the refrigerator for a couple of days, it is best to warm it up be-
- **Dosage - Preventative:** Use 20-60 drops, 3-4 times per day. Add to
  a small amount of water.

### Here is a second example:

| Echinacea | Echinacea purpurea root | 30-40% |
| Boneset   | Eupatorium perfoliatum  | 15-20% |
| Oregano   | Origanum vulgare        | 15-20% |
| Licorice  | Glycyrrhiza glabra      | 15-20% |
| Prickly ash bark | Zanthoxyllum clava-herculis | 5-10% |

**Actions and indications:** Supports the immune system as well as
protects against infectious diseases of a viral nature. It acts as an
anti-inflammatory, antiviral, carminative, stimulates the lymphatic
system, supports the adrenals, eases aches and pains of influenza.
It has specifically been used for prevention and treatment of influ-
enza.

**Liquid extract dosage**
- **Dosage - Acute:** Use 60-120 drops, 4-5 times per day. Best used
  by adding to hot water or tea. Can alternatively be put into a small
  amount of water to drink.

**Dosage - Preventative:** Use 20-60 drops, 3-4 times per day. Add to
a small amount of water.

**Tea dosage**
- **Dosage - Acute:** Use 2 heaping teaspoons per cup water 3-4
  times per day. Drink the tea while it is still warm. If you store it
  in the refrigerator for a couple of days, it is best to warm it up be-
fore drinking. (decoct Echinacea, Licorice, Prickly ash and infuse Boneset and Osha)

Additionally consider using various homeopathics such as Oscillococcinum (a combo mix used to prevent and treat). Other homeopathics to consider are Gelsemium, Eupatorium Perf., Arsenicum album, Aconite, Allium cepa, Bryonia, Baptisia, Influenzinum, Phosphoric acid, Rhus tox. These remedies need to be looked up to decide if they are specific for the person or not.

**Example Case**

46 year old female presenting with flu symptoms of 5 day duration. She is feeling worse rather than getting better. Has a 101.2 fever. She has hot, dry, red skin. Her pulse is fast and bounding and her BP is 160/95. She has bronchial congestion that is noted on auscultation and an unproductive cough. She has a history of getting pneumonia following the flu and seems to be on her way to it right now. She has numerous chronic physical ailments including hypothyroidism that she is taking Synthroid for as well as untreated adrenal fatigue. She has had some trouble with her blood pressure that may be related to her new use of Synthroid. Her diet is poor with a lot of sweets, white flour pastas and poor quality oils. She gets little fresh fruits and vegetables.

She is currently put on a meat broth diet (best with bone marrow and lots of garlic) and told she can have as much steamed vegetables and fruit as she wishes but no fruit juices. She can also have miso soup with parsley, carrots and celery in it. She can have vegetable juices but go easy on the sweeter vegetables like carrots. Get rid of the oils except for olive oil. Also add Arctic Cod Liver Oil and take one teaspoon each day. She was given basic information as covered in prior data in this newsletter such as increasing her water intake, resting etc.

She was given directions to go home and make a tea and take it while soaking in a hot bath. Tea of 2 parts Achillea millefollium (yarrow), 1.5 part Mentha piperita (peppermint) and 1/2 part Glycyrrhiza glabra (licorce). She was to add 10 drops of Pleurisy root (Asclepias tuberosa) tincture to the tea. This tea was to be drunk hot while bathing and she was to get into bed immediately after drinking this tea and taking a hot bath.

This tea was a diaphoretic, antimicrobial, antiviral, anticatarrhal, immunomodulator, expectorant. She was to take an additional tincture when she got into bed and to continue taking it the next few days. It was 2.5 Echinacea, 1.5 Ligusticum (Osha), 1 Anemopsis (Yerba mansa), 1 Inula (Elecampane). 1 Usnea, 1 Ceanothus (Red Root). Add 4 drops of Asclepias to each dose in the water. (Asclepias is sperated as she was to also take it with the tea and the tincture both but she won't need to take it as long as the rest of the tincture.) Take 1 teaspoon every 2 hours for first 24 hours, then 1 teaspoon every 4 hours while awake, including if she awakes at night. She was to stop taking the Asclepias when her temperature and BP became close to normal and she was coughing mucus up.

She began sweating in bed the first evening and it lowered her fever and BP both. She was feeling better in a couple days, started coughing up mucous and continued to improve with no need for follow-up.

The hot bath and tea started her sweating and was the key to starting the healing process. The Inula, Asclepias and Ligusticum were useful as expectorants to move the mucus out of her lungs. The Asclepias, and Ligusticum are also both diaphoretics. Asclepias is a very strong diaphoretic. Echinacea, Ligusticum, Anemopsis, and Inula are immunomodulators, Usnea is an antimicrobial to assist in decreasing the possibility of her getting a bacterial pneumonia on top of the influenza. Anemopsis is also useful in toning up the respiratory tract tissues via its astringent properties. Inula is a respiratory tract tonic as well as a GI tonic. The Ceanothus is a wonderful lymphagogue and supports the spleen and liver. Ligusticum is also helpful at drying up the mucus in her lungs as well as expelling it as an expectorant. It is also soothing to the GI tract as a carminative.

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