THE IMMUNE SYSTEM

Also see How Disease gets into the Body in the Addendum How To

Immunity is a state of specific resistance to infection. Specific resistance is directed against a particular type of microorganism and is the single most important characteristic of immunity.

The immune system enables the body to recognize a foreign agent as nonself, which is something other than a person's own substances (self). The immune system takes a specific action for neutralizing, killing and eliminating that agent. The action involves nonspecific resistance as well. On occasion, the immune system activity may lead to tissue damage as seen in allergic disorders and other states of hypersensitivity.

The immune system's activity is based on its ability to distinguish characteristic proteins or protein-linked components associated with alien substances. Once this distinction has been made, certain lymphocytes (white blood cells) are provoked to produce antibodies directed against the foreign matter, while other lymphocytes are sensitized to the invading agent and react with it directly. Thus, there are two major branches of the immune system:

- **antibody mediated immunity (also known as humoral immunity) and**
- **cell- mediated immunity.**

If you have a problem with your immune system, you can follow the cancer diet, or the anti-inflammatory diet.

What Compromises the Immune System

- **If you have an underactive thyroid**
- **Taking certain drugs that have side effects**
- **Mercury amalgam dental fillings are linked to a weakened immune system.**
- **Marijuana use weakens the immune system by making the white blood cells less effective.**
- **A person's mental state can suppress the immune system**
- **Food allergies, adverse food reactions**
- **A diet of junk food or food with poor nutrition**
- **Toxic residue from various sources**

Antigens

Immune responses are directed at a series of foreign substances known as antigens, also referred to as immunogens. Most antigens are high molecular weight substances, but low molecular weight substances will also act as antigens if they bind to proteins in the body. The low molecular weight compound is referred to as a hapten. The resulting conjugate may induce an immediate response directed against the antigen.

The uptake and processing of antigens by macrophages in the tissue is an initial, critical step in most immune responses. The simple act of taking foreign substances into he body does not necessarily invoke an immune response because the substances may be broken down before they are ingested by macrophages.

Antigenic determinants.

The chemical groups on the antigen molecules that determine their immunogenicity are called antigenic determinants, also known as epitopes. Antigenic determinants may consist of several amino acids of a protein molecule or several monosaccharide units of a polysaccharide. Each species of living thing is chemically and antigenically unique because of differences in the proteins, carbohydrates, and other organic substances.

Types of antigens.

Certain types of antigens are distinctive.
Autoantigens for example, are a person's own self antigens.
Alloantigens are antigens found in different members of the same species (the red blood cell antigens A and B are examples).
Heterophile antigens are identical antigens found in the cells of different species.

A single organism such as bacterium may contain a variety of proteins, carbohydrates and other materials that provoke immune responses. Antigens found on the body cell are called somatic antigens. Antigens in the bacterial capsule are capsular antigens. Antigens of an organism's flagella are known as flagellar antigens (H antigens). Protein substances such as exotoxins are also antigenic.

Cells of the Immune System

Cells of the immune system are associated with the lymphatic system of the body and its specialized cells. Lymphocytes of the lymphatic system are derived from stem cells of the bone marrow. These undifferentiated precursor cells proliferate throughout life and replenish the mature cells of the immune system.

B-lymphocytes and T-lymphocytes

There are two major pathways for the differentiation of stem cells into immune cells. Certain of the stem cells produce B-lymphocytes (B cells) while other stem cells form T-lymphocytes (T cells). B lymphocytes are so named because in birds, they are formed in the bursa of Fabricus. The equivalent site in humans has not been identified but is believed to be the bone marrow. T-lymphocytes undergo their conversion in the thymus gland, an organ in the neck tissues near the trachea and thyroid gland.
The transformation of stem cells into B-lymphocytes and T lymphocytes begins about the fifth month after fertilization, and a full set is complete a few months after birth. These cells then migrate to he lymphoid organs in the lymph nodes, spleen, tonsils, adenoids, and other organs of the lymphatic system.

To initiate the immune response, microorganisms are phagocytized and their antigens are processed in phagocytic cells such as macrophages. The antigenic determinants are displayed on the surface of the phagocytic cells and presented to the appropriate B-lymphocytes and T-lymphocytes to provoke an immune response.

Clonal Selection

The clonal selection theory helps explain how lymphocytes recognize antigenic determinants and respond. According to this theory, small populations (clones) of lymphocytes bear receptors on their cell membranes. Production of these receptors is genetically determined. On B-lymphocytes, the receptors consist of antibody molecules, while on T-lymphocytes they are clusters of amino acids. When lymphocytes encounter an antigenic determinant on the surface of a macrophage, their receptors match with the antigenic determinant and a stimulation follows. A match is also made between a set of molecules called major histocompatibility (MHC) molecules and their receptors.

The clonal selection theory suggests that B-lymphocytes and T-lymphocytes exist for all antigenic determinants even before contact with an antigen is made. The theory also says that antigenic determinants stimulate the lymphocytes to endow their progeny with identical specificity. The B-lymphocytes and T-lymphocytes that might potentially react with the body's own cells are deleted or in some way inactivated to ensure that an immune response to the host organism does not develop.

Another form of serological tests is the precipitation test. In this test, antibodies are called precipitins. They react with dissolved antigens and form large complexes that become visible as a fine precipitate. Tests such as these can be performed in fluid or gel.

The complement fixation test.

The complement fixation test is another application of a serological reaction. In this test, antibodies are combined with antigens in the presence of complement, a series of blood proteins. If the antibodies are specific for that antigen, they will react and use up ('fix') the complement. When a subsequent combination of blood cells and their antibodies are added to the tube, no complement will be available and no reaction will take place. However, if the first antibodies were not specific for their antigen, the complement is not fixed, and it is available to react with the blood cells and their antibodies. The blood cells will undergo lysis as a result of the complement and antibody activity.

The neutralization test.

Serological tests that determine the presence of antitoxins are called neutralization reactions. Antitoxins are antibodies formed against toxins. When these antibodies are united with toxin molecules, they neutralize the toxins and will prevent their toxic effects in an animal. However, if the antitoxin is not specific for the toxin, the toxin is not neutralized and it will exert a lethal effect on the animal.

The fluorescent antibody test.

The fluorescent antibody technique is a serological test that helps to make visible an antigen-antibody reaction. Antibody solution is combined with cells that contain antigens. If an antibody-antigen reaction occurs, a fluorescent dye accumulates on the surface, thereby signaling a positive reaction.

Enzyme immunoassays.

In the enzyme immunoassay, an antigen-antibody reaction is encouraged on the surface of a particle and an enzyme accumulates there. When a substrate is added, the enzyme molecules change the color of the substrate, and the reaction can be designated positive.

White Blood Cells

- **Lymphocytes are responsible for developing specific immunities. There are 3 important types:**
  - **T cells undergo maturation in the thymus gland and play a major role in cell-mediated immunity. We can see these in live blood cell analysis if there are been immunity problems such as Epstein Barr Virus, AIDS, Chronic Fatigue.**
  - **B cells mature in the bone marrow and are responsible for the production of antibodies.**
  - **Natural Killer Cells (N cells) destroy body cells that have become infected or cancerous. They can do quite a bit of damage trying to rectify the problems.**

- **Then there are these granulocytes, also part of the white blood cell immune protection:**
  - **Neutrophils are very abundant in the blood, they move through the blood surrounding, engulfing and eating microorganisms such as bacteria. If you don't have enough of these showing in the blood, you can expect a weakened immune system. If you have a lot of them, you may be fighting an infection, or it could be leukocytosis (leukemia).**
  - **Eosinophlis don't move around (only Neutrophils do) but they ingest and destroy antigen-antibody combinations which are formed when antibodies intercept antigens, and also moderate hypersensitive (allergic) reactions by secreting an enzyme that breaks down histamine. High levels of eosinophils in the blood are often present if there is allergic disorder, usually because the body is attempting to tame the reaction.**
  - **Basophils secrete compounds like heparin or histamine in response to contact with antigens.**

USING ADAPTOGEN HERBS FOR THE IMMUNE SYSTEM

American Ginseng	**Asian Ginseng**	**Siberian Ginseng**	**Schisandra**
Ashwagandha	**Rhodiola**	**Astragalus**	**Devil's Club**
Herb Robert	**Holy (Sacred) Basil**	**Licorice rt**	

Other: Amla, Cordyceps, Dang Shen, Eleutherococcus, Guduchi, He shou wu, Jiaogulan, Lycium berry, Prince seng, Reishi mushroom, Rhaponticum, Shatavari, Shilajit, Leuzea, Chaga (Birch Fungus), Aralia Mandshurica

Adaptogens are herbs capable of restoring normal tone and function of the Hypothalamic/pituitary/adrenal axis and sympatho-adrenal system, and therefore to the entire body. Adaptogens are considered safe agents that normalize endocrine function through numerous broad and non-specific actions, and increase overall resistance to stressors. Because of this rather vague description, the term 'adaptogen' has not been widely adopted in mainstream Western medicine. Nevertheless, adaptogenic herbs posses some unique actions on the adrenal system that tend to promote resistance to the negative effects of stress on the body.

It could be said that Adaptogenic herbs strengthen the body's immune response and increase ability to cope with physical and mental stress. They are also used to increase overall vitality, having a normalizing influence on the body.
Adaptogens are generally not used to treat specific ailments, but used for long term to help person achieve more healthful state. Adaptogens should be non-toxic and have minimal side effects. Bryonia root may have adaptogenic properties but because the herb is potentially toxic, it is not included as an adaptogen, however it is widely used as a homeopathic remedy.

Adaptogens benefit people who constantly suffer minor ailments such as colds. They also greatly benefit those struggling with chronic ailments such as autoimmune disease. Because they help the individual cope with physical and mental stress, they are highly useful in people who feel tired, run down, stressed, burned-out and ill.

Few studies have tested the traditional uses of adaptogens. Most of the research focuses on isolated properties of these herbs in animals and in vitro, there are some clinical studies but is usually published in Asian or Slavic languages.

One theory is that adaptogens act by stimulating a person's nonspecific stress response through the hypothalamic-pituitary-adrenal axis. This axis acts to increase cortisol when animals and humans are subjected to stress, with a reduced sensitivity to feedback down-regulation and a disruption in the circadian rhythm of cortisol secretion. Central nervous system changes include a stress induced depletion of catecholamine neurotransmitters (norepinephrine and dopamine) and an acute increase in beta endorphin levels. Recent studies indicate increase in response to physical stress such as illnesses like cancer as well as emotional stress.

Be careful when you use these in combination with medicines. Because they may actually heal parts of the body, it may be that you are actually taking too high a dose of the medicine.

Licorice rt if taken for longer periods of time can start altering the corticosteroids in the body and can also alter potassium levels in the body and these could cause interactions with cardiac glycosides via the potassium. Licorice potentiates the effects of corticosteroids so if someone is taking steroid medications and say they have been tapered down to a lower dose (which the doctors want to do in order to take them off the steroids) - and they start taking licorice can take a 5 ml dose and turn it into a 10-20 ml dose, increasing the effect of burning out the adrenal glands. If taking insulin, licorice might alter that. Licorice may also interact with MAO Inhibitors.

Many herbs can have adaptogenic or tonic properties but not to be true adaptogens. Because adaptogens increase adaptive energy, they can be considered to be tonics according to the definition that tonics are substances that alleviate conditions of weakness within the body. Tonic herbs are important in Chinese medicine, in which their main function is to supplement deficiencies and enhance energy and well-being. A tonic can be taken every day usually with no side effects. One theory says that adaptogens function primarily due to their antioxidant and free radical scavenging effects. Although this theory is partially accurate, it doesn't explain the full effects of these medicinals. So, although adaptogens are antioxidants, having antioxidant properties (as do green tea, rosemary and bilberry) is not enough to make a substance an adaptogen.

Adaptogens also may have amphoteric effects. An amphoteric is a substance that normalizes functions of an organ or system within the body. Think of amphoterics as 'health food for an organ" - examples would be hawthorn for the cardiovascular or fresh milky oat for the nervous system - they are amphoterics, but not adaptogens. Adaptogens act as broad-spectrum amphoterics to living organisms, but rarely have a pronounced effect on only one specific organ or system. The concept of 'one drug for one disease' does not apply in the use of adaptogens.

Interestingly, adaptogens have adapted to their growing environments, including high altitude cold weather and other stressful conditions. They adapt well. Some are found in rugged mountain regions, many are native to China, India, Korea and Russia.

RECIPES TO HELP THE IMMUNE SYSTEM:

WEI QI SOUP

You may have to visit chinatown to get these ingredients but they are available in most herbal shops in Chinatown.
Pot of water, 4 qt.
Reishi Mushroom
4-5 sticks Astragalus
Codonopsis
Lycii berry
Shiitake Mushroom
Simmer 1/2 hour, leave in or take out (reishi is too touch to eat). Add 1/4 cup barley (immune nourishing)
Burdock
Vegetables: eg. garlic, onions, carrots, celery, parsley
Fresh nettle if available in spring
Tapioca, Yams, Taro are all good.

Can also add Grifola, Poria Cocos, Astragalus to soups.
Note: Reishi mushroom can be cooked as tea, drank, cooked again, drank and it just gets stronger until about 4-5 uses. When taking Reishi extract or tea, best to take with either Vit. C or ginger or licorice root for better absorption.

ANOTHER IMMUNE SOUP

8 cups water or vegetable stock or organic chicken stock
1 diced onion
10-12 cloves garlic (1 whole bulb)
1 Tbsp extra virgin olive oil
2 inches of fresh gingerroot, grated
5-6 pieces of sliced dried astragalus root
1 cup dried sliced shitake mushrooms (double the amount if the mushrooms are fresh)
1 large reishi mushroom (sometimes you can buy this sliced)
1/2 tsp cayenne powder if desired
Bring water to a boil. Heat the oil and saute the onions, garlic, ginger until soft. Add to the water.
Add the mushrooms and astragalus.
Cover and simmer 2 hr.
Take off the heat, rest for 2 more hours. Then take out the astragalus and reishi mushroom.
Reheat adding salt and pepper and cayenne to taste.

Budwig Therapy For The Immune System

this is often used to help cancer patients because it increases the interferon in the body.

This was originally proposed by Dr. Johanna Budwig, a German biochemist and expert on fats and oils, in 1951. Dr. Budwig held a Ph.D. in Natural Science, had undergone medical training, and was schooled in pharmaceutical science, physics, botany and biology. She is best known for her extensive research on the properties and benefits of flaxseed oil combined with sulphurated proteins in the diet, and over the years has published a number of books on the subject, including "Cancer--A Fat Problem," "The Death of the Tumor," and "True Health Against Arteriosclerosis, Heart Infarction & Cancer."
Dr. Budwig found that the blood of seriously ill cancer patients was deficient in certain important

essential ingredients which included substances called phosphatides and lipoproteins, while the blood of a healthy person always contains sufficient quantities of these essential ingredients.
She found that when these natural ingredients where replaced over approximately a three month period, tumors gradually receded, weakness and anemia disappeared and life energy was restored. Symptoms of cancer, liver dysfunction and diabetes were alleviated.

Dr. Budwig then discovered an all natural way for people to replace those essential ingredients their bodies so desperately needed in their daily diet. By simply eating a combination of just two natural and delicious foods not only can cancer be prevented but in case after case it was actually cured. (These two natural foods, organic flax seed oil & cottage cheese) must be eaten together to be effective since one triggers the properties of the other to be released.)

After more than 10 years of solid clinical application, Dr. Budwig's natural formula has proven successful where many orthodox remedies have failed. Dr. Budwig's formula has been used therapeutically in Europe for prevention of: cancer, arteriosclerosis, strokes, cardiac infarction, stomach ulcers (normalizes gastric juices), Prostate (hypertopic), arthritis (exerts a favorable influence), eczema (assists all skin diseases), and even immune deficiencies.

Thousands have been helped by her protocol. Testimonials can be found for almost every type of cancer and tumors, even late stage. Dr. Budwig has assisted many seriously ill individuals, even those given up as terminal by orthodox medical practitioners, to regain their health through a simple regimen of nutrition. The basis of Dr. Budwig's program is the use of flaxseed oil blended with low-fat cottage cheese.

Dr. Johanna was against the use of what she calls "pseudo" fats - "hydrogenated," "partially hydrogenated" and even "polyunsaturated." The chemical processing causes the oils to become a harmful substance deposited within the body. The heart, for instance, rejects these fats and they end up as inorganic fatty deposits on the heart muscle itself. They end up blocking circulation, damage heart action, inhibit cell renewal and impede the free flow of blood and lymph fluids.

Science has proven that fats play an important role in the functioning of the entire body. Fats (lipids) are vital for all growth processing, renewal of cells, brain and nerve functions. Our energy resources are based on lipid metabolism. To function efficiently, cells require true polyunsaturated, live electron-rich lipids, present in abundance in raw flaxseed oil.

Lipids are only water-soluble and free-flowing when bound to protein; thus the importance of protein-rich cottage cheese. When high quality, electron-rich fats are combined with proteins, the electrons are protected until the body requires energy. This energy source is then fully and immediately available to the body on demand, as nature intended.

Budwig claims that the diet is both a preventative and a curative. She says the absence of linol-acids [in the average western diet] is responsible for the production of oxydase, which induces cancer growth and is the cause of many other chronic disorders.

The theory is: the use of oxygen in the organism can be stimulated by protein compounds of sulphuric content, which make oils water-soluble and which is present in cheese, nuts, onion and leek vegetables such as leek, chive, onion and garlic, but especially cottage cheese.

It is essential to use only unrefined, cold-pressed oils with high linolic acid content, such as linseed, sunflower, soy, poppyseed, walnut, and flax oils. Such oil should be consumed together with foods containing the right proteins otherwise the oils will have the OPPOSITE EFFECT, causing more harm than good.

The best combination is cottage cheese and linseed oil. The linseed should be freshly ground. Carbohydrates containing natural sugar, such as dates, figs, pears, apples and grapes, can also be included in the diet. Honey is also beneficial. She feels most of the synthetic vitamin A preparations are bad because they contain oxidation products, but much carotene as pro-vitamin A (from carrot) is

consumed. Vitamin B from buttermilk, yogurt, and natural yeast is beneficial.

A person requires daily about 4 oz. of cottage cheese mixed well with 1.5 oz. of linseed oil. A blender or egg beater works fine. The mixture an be sweeten with honey or otherwise flavored naturally. Fresh fruits can be added.

<u>Dr. Johanna Budwig Mix:</u>
Put in your blender:
1 cup Organic quark or low fat cottage cheese (pref. 1% cottage cheese)
2-5 Tbsp. of unrefined virgin cold pressed flaxseed oil (sold in dark bottles to preserve its integrity)
enough water to make it soft. This is a lot of food to eat, most people use 1/2 cup cottage cheese with 3-4 Tbsp flaxseed oil.
Any fruit you wish such as blueberries, peaches, pineapple (fresh or frozen fruit is acceptable)
honey and/or lemon juice to taste if you wish.
You must blend it well so no oil is floating anywhere, it must be emulsified with the cottage cheese.
You can eat this for breakfast thinned down with water or juice as a shake, or leave it thick as a pudding, topping it with cereal. Or you can eat it throughout the day.
(minimum ratio is 1 tablespoon oil to 1/4 cup cottage cheese but if you have cancer, Budwig suggests anywhere from 3-6 Tbsp oil per 1/2 cup of cottage cheese a day.) Take for minimum of 3 months. Many people did this therapy alone without other dietary recommendations and the cancer was cured but came back after a while. Those that followed the dietary restrictions for 3-5 years did not face recurrence.
Some feel the flaxseed oil might be too rich in omega 3 and suggest not taking it longer than 5 years, but to then do a 2 parts omega 6 to 1 part omega 3.
For those who can't eat dairy products, find they can eat cottage cheese, however you can substitute "Companion Nutrients" available through Nature's Distributors in Arizona, 1-800-624-7114. These are capsules containing dried sulfurated proteins and enzymes which activate the essential fatty acids. They guarantee that one capsule will activate one Tbsp. of oil.

Some people just add the above to their diet, while others follow a Program that she recommends:

The patient has no nourishment on day #1 other than 250 ml (8.5 oz) of Flax Oil with honey plus freshly squeezed fruit juices (no sugar added!).
In the case of a very ill person, champagne may be added on the first day in place of juice and is taken with the Flax Oil and honey. Champagne is easily absorbable and has a serious purpose here. (The champagne vehicle IS easier to assimilate and get someone almost on their death-bed going again.
A retention enema of 250 ml (8.5 oz) of oil is another route to get this precious life-furthering, ELECTRON-RICH oil into the body. It can also be applied to the skin for transdermal absorption.)

1) SUGAR IS ABSOLUTELY FORBIDDEN. Grape juice or honey may be added to sweeten any other freshly squeezed juices.

2) Other 'forbiddens' are:
- **All animal fats.**
- **All Salad Oils (this included commercial mayonnaise)**
- **All Meats (chemicals & hormones)**
- **Butter**
- **Margarine or fried foods**
- **Preserved Meats (the preservatives block metabolism even of Flax Oil)**

3) Freshly squeezed vegetable juices are fine - carrot, celery, apple, and red beet.

4) Three times daily a warm tea is essential - peppermint, rose hips or grape tea - all sweetened as desired with honey. One cup of black tea before noon is fine.

<u>DAILY PLAN</u>

Before breakfast - a glass of Acidophilus milk or Sauerkraut juice is taken.

Breakfast - Muesli (regular cereal) is overlaid with 2 tablespoons (30 ml) of Flax Oil and honey and fresh fruit according to season - berries, cherries, apricots, peaches, grated apple. Vary the flavor from day to day. Use any nuts except peanuts! Herbal teas as desired or black tea. A 4 oz (120 g) serving of THE SPREAD (directions below). This is fine to eat 'straight' like a custard, or add it to other foods taken in the day as you will see.

Morning tea (10am) - A glass of fresh carrot juice, apple, celery, or beet-apple juice is taken.

Lunch - Raw salad with yogurt-Flax Oil Mayonnaise (directions below).
In addition to 'greens' salads, use grated turnips, carrots, kohlrabi, radishes, sauerkraut or cauliflower. A fine powder of horseradish, chives or parsley may be added for flavor.

Cooked Meal Course - Steamed vegetables, potatoes, or such grains as rice, buck-wheat or millet may be served. to these add either THE SPREAD or THE MAYO - for flavor and to up your intake of Flax Oil. Also mix THE SPREAD with potatoes for an especially hearty meal. Add caraway, chives, parsley or other herbs.

Dessert - Mix fresh fruit other than those used for breakfast with THE SPREAD, this time (instead of honey), flavored using cream of lemon, vanilla or berries.

Afternoon Tea (4pm) - A small glass of natural wine (no preservatives) or champagne or fresh fruit juice with 1-2 tablespoons of honey-coated Fax Seeds.

Supper - Have this early, at 6pm. Make a hot meal using buckwheat, oat or soy cakes. grits from buckwheat are the very best and can be placed in a vegetable soup, or in a more solid form of cakes with herbal sauce. Sweet sauces & soups can always be given far more healing energy by adding THE SPREAD. Only honey or grape juice can be used for sweeteners. NO white sugar (or brown!) Only freshly squeezed juices and NOT reconstituted juices (preservative danger) may be used. These must be completely natural.

How to prepare 'THE SPREAD'

Place 250 ml (8.5 oz) Flax Oil into a mixer bowl and add one pound (450 g) of 1% Cottage Cheese low fat or Quark) and add 4 tablespoons (60 ml) of Honey. Turn on the mixer and add just enough low fat milk or water to get the contents of the bowl to blend in together. In 5 minutes, a preparation of custard consistency results that has NO taste of the oil (and no oily 'ring' should be seen when you rinse out the bowl).

Alternatively, you can use Yogurt instead of Cottage Cheese in proportions of 1 oz (30 g) of Yogurt to 1 tablespoon (15 ml) each of Flax Oil and of honey and blend as above.

NOTE: When Flax Oil is blended like this, it does not cause diarrhea even when given in large amounts. It reacts chemically with the (sulphur) proteins of the cottage cheese, yogurt, etc.

How to prepare 'THE MAYO' (Mayonnaise):

Mix together 2 tablespoons (30 ml) Flax Oil, 2 tablespoons (30 ml) milk, and 2 tablespoons (30 ml) Yogurt.

Then add 2 tablespoons (30 ml) of Lemon juice (or Apple Cider Vinegar) and add 1 teaspoon (2.5g) Mustard plus some herbs such as marjoram or dill.

Next add 2 or 3 slices of health food store pickles (no preservatives! - read label!) and a pinch of herbal salts.

According to Dr. Budwig, you need to remain on this diet for a good 5 years. If you break the rules of

this diet, Dr Budwig reports, (ie. eating preserved meats, candy, etc), the tumors will sometimes grow rapidly worse.

FLAX (LINSEED) OIL is readily denatured by oxygen, heat, and light. Rancid oil is bad for health, so oil MUST be carefully produced, packed under nitrogen in light-proof containers, refrigerated until used, used as fresh as possible, and stabilized with protein (THE SPREAD, etc) promptly once the container is opened..." These should be refrigerated and used within a couple of weeks after opening.

Flax Seeds may also be used. Seeds need only be cracked in a food blender, or they may be ground in a coffee grinder. One needs three times the amount of seed to get the oil equivalent. Seeds are high in calories, so one may gain weight. The seeds are also high in soluble fiber, so blending with liquid tends to produce ever-hardening "jellies". Fresh-cracked seeds can sprinkled on muesli but should be eaten promptly.

Very simplified version to make your own interferon

1 pint cottage cheese
5 tbsp almond oil or flaxseed oil or apricot oil or walnut oil
Blend, season with fresh or dried herbs. Make salad dressing with it or sweeten it with honey.

OTHER THINGS THAT CAN HELP THE IMMUNE SYSTEM:

- **Avoid overeating**
- **Get sufficient sleep**
- **Avoid stress**
- **Fast once a month to get rid of toxic residues**
- **Eat a diet of fresh fruits and veggies, nuts, seeds, grains, high fiber foods, organic meats, wild fish.**
- **Vitamin C is an extremely important for the immune system. Take 2,000 mg at breakfast and again at supper.**
- **Vitamin A is a good anti infection vitamin, take in moderate doses.**
- **Vitamin E interacts with Vit. A and C and selenium to act as good antioxidant and scavenger of toxic free radicals**
- **Zinc boots the immune response and promotes healing of wounds, helps protect the liver. Take less than 100mg a day.**
- **Loose weight if you are more than 30 pd overweight**
- **Avoid smoking, street drugs, overindulging in alcohol.**