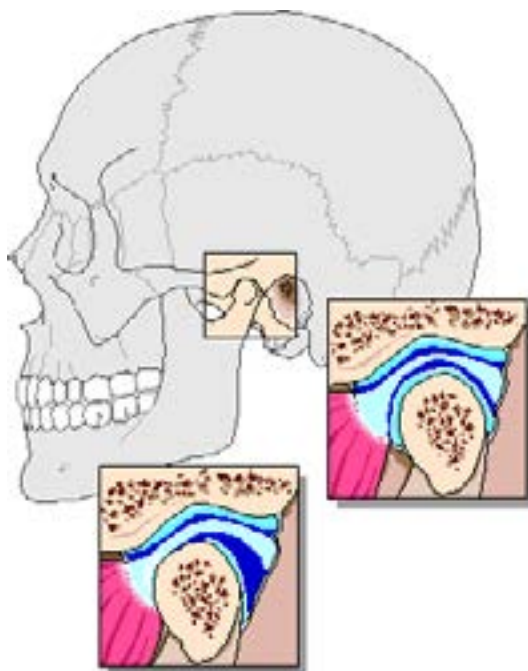


TMJ the Jaw Joint

One of the most important joints in the body is the temporomandibular joint or TMJ. This joint is located where your jawbone joins your skull just in front of your ear. While it is small in size, the symptoms that can be created by imbalances in its function can be wide reaching and sometimes debilitating.

Experts cannot agree on the prevalence of TMJ problems due to the definition of what constitutes TMJ imbalance. If the definition is limited to only those people who have clicking and localized pain in the TMJ, then this is found in 4% of the general population. However, if you consider that a person has a TMJ imbalance if it causes symptoms like headache, dizziness, muscle pain, etc., then the estimates start at 20% and increase.

TMJ disorders are commonly divided into Myofascial Pain Dysfunction, which is primarily a muscular problem, and Intrinsic Joint Derangement, which includes pathological changes in the joint structures.



The most common causes of TMJ problems include stress, bruxism or clenching of the teeth, malocclusion due to your teeth not meeting properly when you bite, and trauma. Trauma can be from an accident or from repetitive disuse of the joint. An example would be chewing only on one side of your mouth.

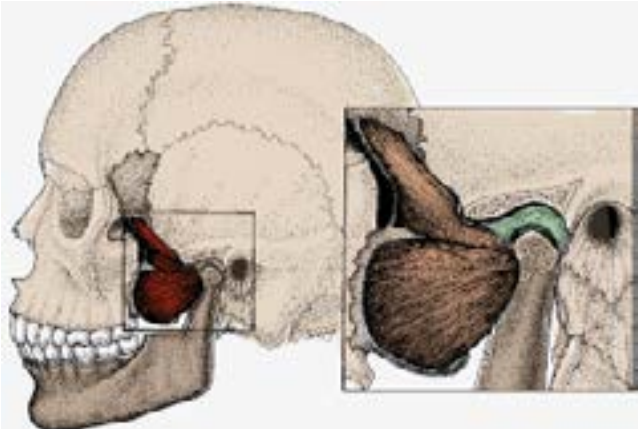
As was stated above, the symptoms that can be created from an imbalance in this joint are very far reaching. A general statement is that almost any symptom of head and neck pain could have as at least part of its cause an imbalance in this joint. Figure 1 shows most of the head and neck symptoms that have been related to TMJ imbalance. In addition to this, you can have pain and restriction in your shoulder and even changes in how you walk. A study pub

TMJ **P.1**Cholesterol **P.3**Holiday Tips **P.6**Antiaging Year Planner **P.8**Your Immune System and Infections **P.9**The Incredible Egg **P.10**

lished in the late 1970's showed that there was a correlation between many causes of scoliosis and TMJ problems. The author's dentist summary was that a chiropractor and a dentist should examine every scoliosis patient.

The major signs and symptoms of TMJ dysfunction consist of pain, tenderness, joint noise and limitation in opening your mouth. Pain occurs in almost all patients. It is usually one sided, and may be localized or wide spread and may be referred to any area of the head. The pain is often worse after eating or upon awakening if you clench or grind your teeth at night. Tenderness in the muscles of chewing or at the back of the head is found in the vast majority of patients.

To understand how we treat the TMJ, you need some basic background knowledge on how the joint functions and is formed. First, a muscular sling on each side supports your jaw. This sling consists of a muscle on the outside and inside of your jawbone. There is a large flat muscle on your skull that lies above your ears on each side over your temple. This is one of the major clenching muscles and is used in chewing your food. Inside your mouth, there is a muscle that controls a disc, just like in your back, that is a spacer between the top of your jawbone and your skull. It



is the green object shown above. Your jaw is kept closed by the continuous contraction of these major muscles. As you can imagine, you should have light equal contraction and not severe over contraction of the muscles. In order for these muscles to be evenly contracting, your head must be level with the ground. If you have a tipped head, you will have over contraction of the muscles on one side of your skull causing an uneven tracking of your jaw when you open and close.

To feel the action of the jaw when it opens, place your index and middle fingers under the bony ridge that is in front of your ears. Keep light pressure and slowly open your mouth. You should feel the top of the jaw, the condyle, moving forward evenly on both sides. The jaw doesn't just pivot, it also moves forward as you open your mouth.

While the condyle is moving forward that small muscle inside your mouth is pulling the disc forward. If the muscle is functioning properly, you will not have any popping or clicking.



The examination of a person with potential TMJ problems begins with watching how you talk and open your mouth. Then the muscles of the jaw are palpated for areas of tenderness or over contraction. The overall postural balance must be examined. Testing helps to reveal which muscles are over contracting or under contracting. We also need to find out why the muscles are reacting the way that they do. Over contraction can be caused by your teeth hitting improperly, spinal imbalances especially in the upper neck, the pelvis, food sensitivities, stress and even fallen arches in the feet.

There is a chain of muscles that contract when the arch in your foot has fallen causing twisting of the lower extremity. This chain runs up the leg to the hip joint. It continues up the back along the spine and then travels to the side of the neck before ending in the jaw muscles.

The treatment of a TMJ imbalance may be simple or complex. A complex case involves joint degeneration due to abnormal chewing patterns that has gone on for years. The longer a person has a TMJ imbalance, the more severe the symptoms can become. In some cases, we will need to work with a dentist trained in the treatment of TMJ imbalances to stabilize the joint and allow it to heal.

Possible TMJ Related Symptoms

Headaches
Popping sounds
Pain chewing

Shoulder problems

High blood pressure

Restricted motion in the arms and legs



Vision changes
Hearing changes
Tinnitus
Ringing sounds
Balance problems

Stiff neck

Tripping over your feet

Areas That Can Cause Abnormal TMJ Muscle Function

Premature contact between teeth

Jaw muscle problems

Clenching
Grinding of the teeth

Dropping of the arch



Unlevel head

Chewing on one side

Neck injury

Pelvic imbalance

Tailbone problems

Cholesterol

If you listen to the television ads and read magazine advertisements, you would think that cholesterol is one of the worst substances in the world. However, cholesterol is essential in our bodies.

Cholesterol is essential to make steroid hormones, bile to digest fats, and vitamin D. It is also important as it makes up the insulation around our nerves and is involved in the maintenance of many membranes in our body. The problem is when we have too much cholesterol and especially the bad forms of cholesterol.

Let's first discuss one of the positive uses of cholesterol in the body. The adrenal cortex makes the majority of the steroid hormones in our body. Other sources of these hormones are the ovaries and testes. Cholesterol is the raw ingredient that these steroid hormones are made from. There are many cofactors, vitamins, which are involved in the transformation of cholesterol into these hormones. Cholesterol is transformed in two steps to the hormone progesterone in both males and females. The essential nutrient for this to occur here is niacin or niacinamide, a portion of the B complex.

From progesterone, our bodies then produce the sex hormones testosterone and estrogen and other hormones like DHEA, cortisol, and aldosterone. Consequently, if your cholesterol level is too low, then you can't produce these important hormones.

Let's start with how cholesterol is actually made in the body. The base chemical that cholesterol is derived from is called acetyl-CoA. This chemical is produced from a molecule known as pyruvate. The original source of this chemical is the breakdown of sugars and other carbohydrates in our diet. Another source is the metabolism of fatty acids.

If you over eat sugars and carbohydrates in your diet then you will produce abnormally high levels of pyruvate and fatty acids. These have many adverse side effects within the body. When we have more of the chemical acetyl CoA than we need for energy, the excess has to be dealt with through the production and usage of insulin. This causes an increased synthesis of fats triggering the production of triglycerides and cholesterol.

When we sleep at night we require little energy. Our body is at rest and the average person burns a little over 500 calories while we sleep. If you over eat sugars and carbohydrates at night, with your supper or in snacks afterwards, the result will be your body producing fats and increased cholesterol levels while you sleep. So one of the first steps in reducing high cholesterol levels is to reduce the amount of sugar foods and simple carbohydrates that you eat at night. The foods to reduce here include potatoes, rice, pasta, breads, carrots, peas, and excessive fruits. You can eat these foods at lunch because your activity level will burn them off in the afternoon and early evening.

There are a number of other lifestyle modifications that you can do to help control your cholesterol and triglyceride levels. One of the first is exercise. This exercise doesn't have to be overly taxing and can just consist of walking for a period of time. This physical activity will help to lower the bad cholesterol, LDL, and raise good cholesterol HDL. Brisk walking 5 days a week for 30 to 40 min. can produce positive results.

In a study of postmenopausal women, it was shown that those women who tested to have good heart and lung fitness were also those with good blood fat levels. Another study in men to determine if exercise had positive effects that were not related to the weight of the person was performed. This study showed that men of the same weight that were active had lower cholesterol levels than their sedentary counterparts. One surprising finding of this study was that your waist measurement is closely related to your triglyceride levels. Consequently, belly fat is related to triglyceride levels.

Obesity is on the rise in our children. In a study of the effects of exercise and diet, teenagers showed a positive response after 6 weeks of diet changes and daily exercise. The study also checked for changes in the walls of the arteries. The initial findings were that there were already, at this age, abnormal changes in the lining of the arteries that lead to plaque formation. These were beginning to be reversed at the 6-week retesting and were dramatically better in those children that continued the program for a year.

The results were not as good in those that stopped exercise and only followed the dietary changes.

Let's discuss some of the dietary changes that you can do to positively effect your blood fat levels.

As was mentioned above, the other source of cholesterol comes from saturated fat in the diet. You should think of substituting olive oil for butter in reducing and eliminating as many trans fats as possible. Trans fats are those that are found when the label says partially hydrogenated. You should also limit your intake of beef and pork and other animal fats and increase your intake of fish.

Speaking of fish, omega 3 oils are very important and have a very positive effect on cholesterol and triglyceride levels. One word of caution however, if you're on a blood thinner you have to be very careful about adding omega 3 capsules into your diet as it also will cause thinning of the blood. As usual, eating deep-water fish is better for you than taking supplements. But the supplements of omega-3 oils are a good way of spreading out the intake of these essential oils in your diet throughout the week. Other sources of omega-3 oils besides fish oils are flaxseed, walnuts, and sesame. The active ingredients in the fish are called EPA and DHA. Flaxseed, walnuts, and sesame do not contain these chemicals but contain the precursors for them. These precursors can be converted into these valuable oils but require cofactors, vitamins, to do so.

Other simple lifestyle modifications include quitting smoking, increasing your intake of nuts, especially walnuts and almonds, drinking green tea and moderate consumption of alcohol. The problem with alcohol is that higher levels of intake reverses the positive affects of raising HDL levels and leads to a decrease in HDL levels. As is usually the case, moderation is the key.

Most diets to control cholesterol level by

reducing cholesterol intake have proved ineffective. This is because the liver and other organs like the adrenals, the small intestines, and the reproductive organs produce cholesterol in our bodies. One of the substances produced by the liver from cholesterol is bile. Bile is necessary to digest fats. It is stored in the gallbladder and is slowly excreted all day long and increased release occurs when you eat fats.

Quaker Oats has advertised on television the importance of eating oatmeal for breakfast and it being heart healthy. Here is how that works. Oat fiber has an affinity for and attaches to fats. You eat your oatmeal with whole milk on it and the fat in the whole milk stimulates the release of a substance called CCK from the stomach that tells the gallbladder to release more bile. The bile, which contains cholesterol, is released in greater quantities into the intestinal tract where it meets the fiber in the oatmeal. The cholesterol then binds to the fiber and later you deposit this in the toilet bowl. The problem is that if you don't have a fat with the oatmeal there is only a little trickle of bile, cholesterol, which will be bound to the oat fiber and removed from your body.

Normally, the cholesterol in the bile is just reabsorbed into the blood stream. It goes round and round unless it binds to fiber.

The major dietary sources of cholesterol are animal fats. These obviously include dairy products like cheese, yogurts, ice cream, egg yolks, as well as beef, pork, poultry and surprisingly shrimp. Plants, in general, do not contain cholesterol except for a few nuts and seeds that contain substances called phytosterols.

Lipoproteins are the transport mechanism for cholesterol in our bloodstream. There are different types of lipoproteins. They are labeled according to their degree of density. The two important ones in relationship to cholesterol are LDL or low-density lipoprotein, and HDL or high-density lipoprotein. The LDL is the bad form and the HDL the good form. The LDL form is the one that is involved in the development of cardiovascular disease. The LDL is absorbed by one of the white blood cells in our

bloodstream. These can then become trapped in the walls of the blood vessels and slowly become transformed into plaque formation. This causes decreased blood flow in the heart, brain and the legs. HDL, on the other hand, has been shown to reduce the progression of atherosclerosis by bringing cholesterol back to the liver and the organs where it can be synthesized into bile or hormones.

Aside from these changes, there are supplements that can help balance your cholesterol levels. These include niacin, polycosanol and omega 3 oils. There has been a lot written about red rice yeast.

Red rice yeast is where the pharmaceutical companies developed the statin drug lovastatin. As the statin drug has side effects, so does the red rice yeast and it therefore is not one of the first supplements that you should use.

The statin medications have the following possible side effects. The main side effect is muscle pain but can include liver and kidney damage. Less severe are gastrointestinal symptoms like nausea, gas, diarrhea or constipation. Another possible side effect is an adverse effect on your glucose handling that could lead to diabetes. Finally, there has been a relationship between the statins and memory loss. These side effects are more likely if you are a female, are short, over 65, have any history of kidney or liver problems, are overweight or have or are starting to show signs of diabetes. Many of these side effects are due to a decrease in Coenzyme Q10 brought on by the statin intake.

Niacin is important in cholesterol regulation for two reasons. The first is that it allows cholesterol to begin its conversion into the steroid hormones. Second, niacin has been shown to increase good cholesterol, the HDL variety. One of the uncomfortable side effects of niacin is that it can cause a red flushing of the skin.

Polycosanol is a chemical found in sugar cane that can reduce the production of cholesterol in the liver, increases the breakdown of bad cholesterol, LDL, and also has been linked with

decreasing the stickiness of the cells in your blood stream thus helping to reduce the chance of blood clots.

What are the goals?

In a book titled **Predictive Medicine**, Emmanuel Cheraskin, M.D., D.M.D. outlined the results of experiments he did on thousands of individuals. He would examine people and plot out symptoms versus blood values. His conclusion was that there were no ranges but specific points where there were no symptoms. His finding was the best cholesterol level was 180. As far as the HDL level, you should aim to be at 60 plus. Values between 50 – 60 are good but results above 60 are better.

Applied kinesiology gives us options to aid in finding the treatment choices that are better for you. For example, the best nutritional support might be to aid in the production of the steroid hormones. Your history, symptoms, and findings of the applied kinesiology examination help to personalize your treatment for best results. This includes testing to see if you are susceptible for high homocysteine levels that were talked about last month. Remember, this is the chemical that causes the damage to the arteries that the bad cholesterol then invades causing the build up in the arteries.

Here are the basics:

Stop or dramatically reduce smoking
Increase your exercise level – aim for five 30 – 40 minutes of brisk walking a week as a minimum.

Reduce your intake of sugars and simple carbohydrates at your evening meal
Increase fish in your diet

Do not snack after your supper

Consider having oatmeal with a whole milk or another fat at breakfast

Increase fiber in your diet by increasing your intake of vegetables and fruits

Consider having nuts like walnuts or almonds for a snack

Aside from this, talk to us about the nutritional support that can help reduce your total levels and increase your good cholesterol levels.

[Cardiorespiratory fitness and cardiovascular disease risk factors in postmenopausal women.](#)

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Think skim milk and no fat milk products lack taste?

As published in the December 21, 2010 issue of *Annals of Internal Medicine*, scientists at the Harvard School of Public Health have identified a natural substance in dairy fat that may substantially reduce the risk of type 2 diabetes, by 60% and related metabolic changes. The compound trans-palmitoleic acid is a fatty acid found in milk, cheese, yogurt, and butter. Our bodies do not produce it, so the only source is from the diet. This study was conducted for 20 years.

Once again, the bottom line is moderation. Enjoy 2 ounces of cream or 8 ounces of yogurt or non skim milk a day.

Holiday Foods

Turkey and ham are two staples of the holiday season. One of the problems with these is that it is common for them to be injected with broth in their processing.



Read the labels carefully for words like vegetable broth or hydrolyzed protein. These are added to enhance the flavor of the meat, but they contain glutamate, the villainous part of MSG, monosodium glutamate. Other compounds to look for are caseinate, enzymes, carrageenan and soy protein isolate. All of these are ways that glutamate sneaks into our diets.

One of the ways to help prevent some symptoms is to cook with spices. Oregano, ginger and turmeric all have strong antimicrobial effects that help to kill germs in your food.

Flu Season

The major means of the flu virus spreading is from our hands. In a public bathroom, the highest level of bacteria is found on the door handle. After washing your hands, use the paper towel to protect you from any bacteria on the door handle.

If you cough, raise your arm and cough into your elbow. This action will reduce the spray of the virus produced by the cough.

The Kitchen and Food Poisoning

Contamination to food is easily done in the kitchen.

You should use a separate board for cutting and preparing vegetables and preparing meats, poultry, or fish. These surfaces should be cleaned after each use with an antibacterial preparation or at least hot soapy water.

One place we don't think of as a breeding ground for bacteria is the sink. Putting dirty dishes in the sink in some water creates an ideal place for growing bacteria. If you do this, put them in hot soapy water to soak and then wash them. If they are not fully clean, using a dish towel to dry them will allow bacteria from the partially washed dish to be transferred to the other plates, glasses or silverware.

Washcloths, scrubbers and toothbrushes can be sterilized by microwaving them for a minute. One note on the toothbrush, if you just rinse it with water after using it, it can contain bacteria that you then brush your teeth with again later. If you have a cold or throat infection, you should sterilize or wash your brush with soap and hot water or use a peroxide and water preparation after or before each use.



Anti-Aging Yearly Planner

It is a new year; it is a time for planning your goals for the next year. One of the important things that you can do is to take stock in where you need to go with your health. The following is a list of important items that you should consider when planning any health changes that you should make. Think about these and if you have any questions, we can discuss them when you are in the office.



1. Eat less but eat enough

Almost every study of the North American diet shows that we eat too much of something. It might be too much fat, too much starch, too much sugar, too much alcohol, too much coffee and the list goes on. Take stock in what you consume. Keep a weekly diary and look back on what you ate and drank. Usually the answer is right in front of you. Then ask yourself why you consumed what you did. Armed with these answers, together we can plot out a diet, suggest possible supplements to make up for any deficiency, or suggest ways to control cravings. Our dietary needs change depending on our age, activity level and current health status. A constant is our inherited weaknesses. If you come from family with a long history of heart disease, then this should be taken into account when formulating your diet for life. Calcium is a prime example of a nutrient that the needs change for at different stages of our life. While growing, we need more to form bones. That need tapers off until we reach 35 – 40 years of age and then our daily requirements go up again to combat osteoporosis.

2. Eat balanced

Food is divided into three main categories, proteins, fats and carbohydrates. You must have all three and within certain ratios. You also have to have vitamins and minerals to allow chemical reactions within your body to

work. By doing the diet log in the step above, coupled with a list of symptoms that you suffer and comparing that with physical signs that you show in the office and possible laboratory tests, a comprehensive diet – nutritional program can be tailored for your

needs. In the 60's, the concept of biological individuality began to take hold. A medical researcher named Roger Williams put this forth. Basically, we all age slightly differently and the needs for any specific nutrient can vary widely. That is why some people will need a lot more of a specific nutrient than others and the whole concept of an RDA (recommended daily allowance).

3. Consume anti-oxidants

The list of research papers showing the positive effects of anti-oxidants in promoting health keeps growing and growing. Make sure that your diet contains these foods or supplement your diet with formulations that increase these very important substances.

4. Plan your exercise routine

Physical exercise can run from walking to aerobics to garden work to almost any activity that gets you off of the couch. Basically, you need to do something that stretches your muscles and takes your joints through a full range of motion. Next, you need to do something that gets your legs going and keeps them going for at least 30 minutes at a steady pace at least four times a week. Finally, you need to do some activity that keeps up your muscle strength and endurance. Start with activities that you like to do and see what you are missing. Do you need more cardiovascular work, more stretching or more muscle toning? Let's talk about where you are and what your needs are. Planning what to do is the easy part, getting into the habit of doing it is the hard part.

5. Exercise your mind

Recent research shows that your mind is growing new connections even in the elderly. Your mind is just like any other organ. It needs stimulation to stay young. Stimulate your mind, learn something new, read non-fiction books, take a course at a college, but whatever you do – don't vegetate and just watch television. Oprah, Sally, or Monday Night Football does not stimulate your mind. If you feel that your memory is slipping, talk to us about nutrients and herbs that may help restore your mental acuity.

6. Do something for yourself

So often we are so caught up in doing our daily activities that we don't take time for ourselves. In a little published research report out of England, 300 people needing counseling were broken into two groups. One received two hours of counseling a week for one year. The other group planned two hours a week of doing activities that they enjoyed. After the year was up, almost all of the group in counseling were deemed to need more counseling while those that had done something for themselves did not. The moral is, do something for yourself that you enjoy doing on a regular basis.

January is classically the time people make their resolutions to change their life, or do something new. Take a piece of paper and write down your responses to the above categories. This will outline where you feel you should change your daily and weekly life habits. Bring in your summations and let's talk about how you can implement these changes in a healthy way.

Old Chinese Proverb

**Live and learn like you will live to 100
and you may.**

Your Immune System and Infections

Your immune system is very much like a team. There are a number of different white blood cells that have various functions that have to work together, as a team, to create an efficient immune system.

You have possibly heard of two of these cells. One is the lymphocyte or T-cell that fights invading cells like bacteria and viruses. There are also B-cells that create antibodies. These antibodies bind to the surface of damaging or foreign invaders like bacteria and viruses. These B-cell antibodies create targets for your lymphocytes to attack the cell.

The rest of the team includes cells that remove the destroyed cells. These are named macrophages and neutrophils.

Your white blood cells are circulating in your blood stream all the time. They are also stored in your lymph nodes. You have probably felt these lymph nodes swell in your neck when you have a throat infection.

A healthy body has these cells circulating and the tissues that can produce more of them are always on alert to increase the size of your "immune army".

Your "immune army" lies behind barriers. Examples of these barriers are your skin, the mucous lining of your intestinal tract and the mucous lining of your sinuses.

When an attack occurs, substances known as cytokines are released and call your immune cells into action. These substances also cause a local inflammation that functions to wall off and restrict the infected area.

Surprising is the fact that the largest portion of your immune system is in and around your digestive tract. Many medications, especially the anti-inflammatories like aspirin and ibuprofen, can cause damage to the lining of our stomach and intestines. Some of the foods that help us have a strong intestinal lining include foods high in phosphatidylcholine (soybeans, egg yolk, but

ter, peanuts, potatoes, cauliflower, lentils, oats, sesame seeds and flax seeds), omega 3 oils, and monounsaturated fatty acids like those in Olive oil.

Foods that are high in fiber are fermented by friendly bacteria and create short chain fatty acids that fuel the cells lining the colon.

Protein malnutrition severely restricts your immune system. There are two amino acids, arginine and glutamine, that are known to boost the immune function and aid in the healing and health of the lining of the intestinal tract.

Vitamin C is probably the most well known vitamin associated with the immune system. This vitamin supports normal T cell function. Other nutrients associated with T cell function are vitamins A, E, folic acid and B-12. The B cell function is reduced in a deficiency of pantothenic acid, vitamins E, thiamine, and riboflavin.

Zinc has recently been promoted for its immune function. It both aids in the production of the T cells, but it also slows or stops viruses from replicating. Selenium is another mineral that increases immune function by stimulating the production of T cells. Sucking on zinc allows it to coat your mouth and throat. This has been shown in multiple studies to prevent or at least reduce the length of time that you have the flu.

The immune-boosting properties of garlic are due to its sulfur-containing compounds allicin and sulfides. Garlic can also act as an antioxidant that reduces the build-up of free radicals in the bloodstream. To prepare garlic, you should smash or cut it finely and let it sit for 5 minutes before covering it with oil. The chemicals need to be exposed to oxygen in order for them to become activated.

We have an immune system that is a team. The team needs multiple nutrients to function properly. When there is an insult like the flu, these nutrients must be there for your immune system to adequately fight. Foods with these nutrients or a supplement containing all of these should be taken throughout the day to allow your immune system to function all day at the levels needed to properly fight the offending organism

that attacks you.

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The Incredible Egg

There was a recent Canadian study that said eating eggs is almost as tough on your heart as smoking. This was a badly flawed study. First of all, the subjects had to try to remember how many eggs they'd eaten throughout their entire lives -- a tough task, as you can imagine, even if you hate eggs. Secondly, the researchers ignored important factors like exercise and sugar intake. In fact, several well-designed American studies -- including the massive Framingham Heart Study -- have found no link between egg intake and heart disease. And researchers at the University of Texas found that egg yolks were packed with antioxidants that stall the growth of cataracts and cut the risk of macular degeneration (the leading cause of blindness in North America) by as much as 40 percent.

In February

Shoulder injuries Metabolic syndrome

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