COMMON AILMENTS ALLERGIES NOTE:

- **1.** To reduce toxin exposure, eliminate ALL AVOIDABLE TOXINS by choosing Shaklee toxin-free cleaners and personal care products.
- **2.** To support more optimal fiber and raw essential oils, it is recommended to eat 3 tablespoons of fresh ground flaxseed daily
- **3.** With every ailment listed below, use the three items listed FIRST for support to one of the Starter Programs
- 4. ALL programs should begin with ONE of the following three STARTER PROGRAM OPTIONS:
- □ A. Bare Essentials
- 1. 3 tablespoons of Soy Protein or 2 scoops of Cinch Shakes
- 2. 2 Vita Lea
- 3. 1 Optiflora Pearl PLUS 1/8th to 1 teaspoon Optiflora Powder
- ☐ B. Basic Program for Prevention
- 1. 3 tablespoons of Soy Protein or 2 scoops of Cinch Shakes
- 2. 1 Vitalizer Strip (with or without iron) PLUS 1/8th to 1 teaspoon Optiflora Powder
- ☐ C. Better Program for Prevention and Symptoms
- 1. 3 tablespoons of Soy Protein or 2 scoops of Cinch Shakes
- 2. 1 Vitalizer Strip (with or without iron) PLUS 1/8th to 1 teaspoon Optiflora Powder
- 3. 1 teaspoon of Vivix
- 4. 2 NutriFeron

ALLERGIES:

NOTE: Purify the air you breathe – AirSource (Air purifier) recommended REMOVE ALL KNOWN FOOD ALLERGIES (??milk, eggs, wheat, corn, sugar, dyes??)

- 1. ALFALFA: natural anti-inflammatory; natural anti-histamine
- 2. VITAMIN C: reduces histamine release; anti-inflammatory
- 3. NUTRIFERON: especially for environmental allergies
- 4. ZINC: a powerful immune system booster
- 5. SHAKLEE DR: a powerful herbal immune booster. Use only on a rotation basis 4 days on/3 days off (use Monday through Thursday then stay off for the weekend: Friday through Sunday)
- 6. GARLIC: helps normalize & stabilize the immune system
- 7. CALCIUM/MAGNESIUM: helps reduce the body stress from allergies
- 8. BETA CAROTENE/ CAROTOMAX: stimulates immune response
- 9. VITAMIN E + SELENIUM: necessary for proper immune function

The Shaklee Difference - The principle of "Products in Harmony with Nature and Good Health" guides Shaklee science. Experts in nutrition, public health, food science, analytical chemistry, biochemistry, herbology, microbiology and engineering staff the 52,000 square feet Forrest C. Shaklee Research Center in Hayward, California. They continue the important research and development that makes each product the world standard for quality. This information is not intended to replace medical care. This information is not intended to diagnose, treat or cure. The recommendations are geared towards the prevention of disease and the descriptions of individual products in this report are not meant to indicate that they can significantly reduce the risk of disease by themselves; rather the descriptions are meant to indicate the role that they may play as part of a holistic approach to optimal health. This report is not to be used as a substitute for appropriate medical care and consultation, nor should any information in it be interpreted as prescriptive. Any persons who suspect they have a medical challenge should consult their physicians/pediatricians for guidance and proper treatment. Any testimonials herein do not represent Shaklee's position on their products. It comes entirely from the experiences of a satisfied consumer.

Help, Allergy Season is Here!

Allergic disorders affect an estimated 1 in 5 adults and children (40 to 50 million people) and are the sixth leading cause of chronic illness in the United States, according to the Allergy Report from the American Academy of Allergy, Asthma and Immunology (AAAI).

What Are Allergies?

Allergies are the immune system's inappropriate response to a foreign substance, called an allergen. Exposure to what is normally a harmless substance, such as pollen, causes the immune system to react as if the substance were harmful. Being exposed to allergens when the body's defenses are low or weak, may also contribute to the development of allergic rhinitis (hay fever) symptoms. Sneezing, congestion, itchy, watery nose and eyes and/or asthma symptoms such as wheezing, chest tightness, difficulty breathing and coughing, are no fun. We've all seen the many commercials for various prescription drugs, but is that the only answer?

Are there Natural Solutions to Allergies?

Yes. By strengthening your immune system, you can replenish your body's own arsenal of defenses. Probiotics can help.

Things that Weaken your Immune System:

Stress (emotional, physical)

Sugar/Alcohol

Over exposure to toxins

Poor diet

Lack of rest

Aging

Genetics

Things that Strengthen your Immune System:

Exercise

Avoid sugar, baked goods

Reduce toxic exposure

Diet rich in veggies, fruits, low

Adequate rest, 8 hours/day

Water

fat protein, whole grains

Nutritional supplements

FACT: In 2000, US sugar consumption was 160 pounds per capita per year.

In 1985 it was 124 pounds.

In 1900 it was 10 pounds.

FACT: Sugar is the anti-nutrient. It depletes vitamins and minerals essential for the immune system (B vitamins, antioxidants, iron, zinc,). It also displaces natural nutritious foods in the diet like fruits, vegetables, water, or milk (with soft drinks). Did you know that 70% of the body's immune cells are located in the intestinal tract? Did you know that antibiotics often kill off your beneficial bacteria along with the harmful ones? After taking an antibiotic, most doctors will recommend that you take a probiotic to replenish the beneficial bacteria that reside in your intestinal tract. Vitamin C Boosts the Immune System Vitamin C is depleted by stress such as infections, illness, fatigue, surgery, anxiety, pollution, and extremes in temperatures. Birth control pills, smoking and alcohol deplete vitamin C. As we age, there is a greater need to regenerate collagen, which requires more vitamin C.

Vitamin C is a natural antihistamine, helps the body absorb iron and calcium, and is frequently used in the prevention and treatment of colds. Vitamin C is a powerful antioxidant that reduces risk of cancer, heart disease, and cataracts. Vitamin C also increases resistance to ligament and tendon injury.

Other Natural Solutions to Allergies and allergy symptoms:

- 1. Don't wear your shoes in the house. They track in allergens.
- 2. When pets come in from outside, wipe fur with a damp cloth.
- 3. Try a netti pot or a saline solution to flush your nasal passage.
- 4. Sleep with your head elevated.
- 5. Natural, chemical free cleaners that work.

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Next 6 pages are TESTIMONIES on what helped people with allergies...

ALLERGIES - Environmental

For the first time in my life, I have been suffering greatly from allergies. I've been receiving many a smarty-pants comment here and there from people who tell me "isn't there a vitamin for that?" Many others have told me to take Allegra or Claritin, etc. the list is long, but not my preference since the side effects from those antihistimines is not really up my alley. OK, so being an inquisitive person, I've been researching this stuff and trying very hard to rid myself of the scratchy eyes, constant sneezing and middle of the night blowing of the nose! I think I have found a solution.

Since allergies are the result of an abnormal immune system response, I decided to work on strengthening my immune system. I was taking Shaklee's Nutriferon and my regular multivitamin and that didn't seem to do it. However, once I increased my dosage of Optiflora from 1x/day to 2x/day, the allergies went away immediately. Yippee! I even experimented and tried a day with just one Optiflora and those sneezing attacks were back. So, I highly recommend it. Anne

This information is not to replace medical care; to diagnose, treat, or cure

Allergy Story (Environmental)

There are many types of allergies. Both environmental and genetic factors play a role. I have mainly a grass and tree pollen allergy. Had them since I was 17 years old. My bad sneezing season is May thru June with some minor symptoms in September. The symptoms I get are uncontrollable sneezing and itchy eyes... The main goal is to build the immune system to combat the allergens that affect your immunoactive responses: Here are my top 10 things I did that reduced my allergy symptoms from grass and tree mold.

- 1. Close the windows in your office and house.
- 2. Get an AirSource 3000 to rid the indoor air of pollen. The air purifier allows the body to maintain a stress free immune system while you're indoors.
- 3. Place AirSource in bedroom(s) during the day. The ultra violet light in AirSource kills the dustmite feces that cause allergic responses.
- 4. Get new pillows for your beds if your pillows are over two years old because of the dustmite excretions. Wash and change pillow cases, regularly.
- 5. Switch from toxic to non-toxic cleaners toxic chemicals (Get Clean) have found to cause asthma and allergies in come cases.
- 6. Start an Anti-Allergy Shaklee Supplement program: Mine is...
- 7. I take 3-4 capsules of Immunity Formula I every morning. On a bad day, I have to take a second serving in the afternoon.
- 8 I also take a full serving of Alfalfa once or twice a day before Immunity I was available, I had to take 3-4 servings per day.
- 9. I carry a baggie of Alfalfa in allergy season, when I travel, play golf or go boating. I take 3-4 tablets any time I sneeze.
- 10. Another Shaklee supplement, Optiflora, the pre-biotic and post-biotic seem to help me with my allergies, also. Optiflora works in the GI tract.

Many people are getting good results with Shaklee's new NutriFeron instead of Immunity Formula I. Nutriferon is a blend of four Asian herbs. Immunity Formula I, on the other hand, is a blend of 10 immunoactive nutrients, vitamins and minerals. I personally, get great results with Immunity I so I haven't switched. Everyone is different. So, it's best to experiment to find out what works best for you. Nutritional therapies usually work. (Be sure to consult your allergist doctor if necessary.)

Good luck this allergy season!

Jerry

ALLERGIES SUFFERS WINS WITH NUTRITION ENVIRONMENTAL AND FOOD ALLERGIES/ ASTHMA

I'm allergic to pollen, dust, grass, weeds, trees, feathers, fur, certain scents, dogs, cats, and certain foods (citrus, fish, cashews or anything processed in a plant with tree nuts). I also have asthma. I suffered oozy itchy rashes on my hands so bad I could hardly bend my fingers and couldn't work as a nail tech. for years I would break out all over my body every time the wind blew. I was always getting nose bleeds. I was constantly sick with bronchitis, and pretty much had no voice for 4-6 months out of the year. I tried over-thecounter, and every prescription med, inhalers, nose sprays, you name it. Zyrtec worked the best but made me absolutely crazy and I had to quit taking it. I was getting allergy shots for a while and they helped a lot, but the series were sporadic, due to red tape in the Medical system, and a couple times I had anaphylactic reactions to the shots. That is really scary! The last time Medical stopped my shots was when the NutriFeron first came out. I was freaking about the shots because if I didn't get them every week I'd be back to the same symptoms and end up with bronchitis and losing my voice, etc.

I was a non committed Shaklee user, but decided to give the NutriFeron a try at the urging of my sponsor, Julie Colegrove. My God, what a difference! I doubled up on it the first few days, and then took two a day regularly for a long time. I did go without it for about a week at one point, and that is where I really saw the difference because the symptoms came back! Other than that, I've been basically symptom free since I started taking the NutriFeron, and I've gotten friends who were distributors for other companies taking it for their allergies and asthma because they saw the difference in me and how much better I was since I started taking the NutriFeron.

I've only been taking one a day for a while now, along with the foundation vitamins, alfalfa, and calcium. I have seven children, one with severe allergies who also takes NutriFeron. My oldest daughter who is in college in Santa Cruz, takes it every day and she was the only one in school that didn't get sick the whole year, except once, and that time she recovered real fast when she doubled up on the NutriFeron. The other kids take it when others around them are getting sick at school and work. It feels good to be able to go outside on a beautiful day and not be afraid of breaking out in a rash. I even go outside when it is windy and still have my voice! Recently I went on a five-mile hike when everything was blooming and didn't even sneeze or get wheezy! NutriFeron is amazing stuff-I can't help but be excited about it! God bless the doctor who developed it! Tara Colvin

<u>ALLERGY TESTIMONY – Tim B</u> <u>Environmental, Bee sting</u>

I have been using Shaklee products since I was very young. I'd say I was around 8 or 9 when my folks started as Shaklee Distributors. Even back then I remember the quality of Shaklee products making a difference. There was a time I got stung by bees in three spots. When I was bit my face swelled up. I can remember my parents giving me Alfalfa and the swelling went down pretty quickly. As I got older I sort of drifted away from the Shaklee products. Convenience replaced quality and I fell into the trap so many of us can from time to time. I had also been told by allergists that it was easier to tell me what I was NOT allergic to than what I was. So I resigned a life to taking prescription medications, allergy shots that would make me sick, and nasal sprays that were awful. I forgot how awesome Shaklee products were... and still are. Then not too long ago I decided to get cats. Now.. I know what your thinking, "He's allergic to everything... surely cats are on the list!", and you'd be right. But this time I remembered the alfalfa. And I remembered reading info about Nutriferon. So.. I went online. Ordered my stuff. I got the cats. I got my product and started taking it. Then I waited to see what would happen. And here's the best part.... Nothing happened!!

No sneezing... no runny nose... no feeling miserable because cats are around. No more prescription medications that had nasty side effects!

Nothing. I can actually live in a house with cats and not have an allergic reaction. It's amazing to say the least. I don't get that lethargic feeling the medications would cause. I have more energy. I sleep better. I'll never drift away from my Shaklee supplements again. They mean too much to me now that I am remembering how incredible they are. Get this.. the only times I feel my allergies kick back up is when I forget to take my Alfalfa and Nutriferon! I also wanted to let you know I have chosen to re-commit myself to building a business.

After years of working crazy schedules and stressful jobs I decided to take control of my life. At the moment I am doing freelance work here and there and it has given me time to relax and see my family and friends again. In fact it was at a family reunion that my brother Jeff sparked my interest in getting Shaklee going again. It's tight financially, but it's worth it not to have the stress I was dealing with. And I know in my soul that I made the right choice. Just as Dr. Shaklee said years ago, "Your future will be exactly what you decide to make it.", I have decided to make a different future for myself. One that includes helping people live better lives. One that allows me to be with my family and friends. One that lets me be myself. Tim B

TESTIMONIES - ALLERGIES/SINUS

At the age of 17, I was overcome by a grass pollen allergy that was so severe, I couldn't stop sneezing and scratching my eyes. My vision was blurred for four weeks due to the fluids in my eyes. And each year my allergy symptoms would reappear. Through my adult years, to control the symptoms, I took allergy medicines and nasal sprays like most people did. I never took allergy shots. I had to give up golf, unfortunately, between May 15 and June 15th and rarely went outdoors in the spring--- the prettiest time of the year!

In 1990, a friend, Joan Ayers, told me about her 7-year-old child's recovery from the same symptoms that I had. She had taken her son, Taylor, off of allergy shots thanks to Shaklee. She advised me to take more Shaklee Alfalfa supplements than I was taking! She suggested that I take the recommended serving size (10 tablets, which is on the label) three times a day---like her son, Taylor, did. Well, I tried it, and the Alfalfa worked! The only thing was, on a real bad pollen day, I had to take the Alfalfa servings (about a teaspoon of tablets) 4-5 times a day to stop the sneezing. Fortunately, there weren't too many days like that---maybe three or four a season. Sometimes I made a tea out of the Alfalfa, but mostly woofed them down. At a Promise Keepers meeting at JFK Stadium on Memorial Day one year, I sucked on the Alfalfa all day! It was a brutal pollen day! I should have stayed indoors! More help came several years ago when a friend circulated an email about allergies which said that Shaklee's Formula I (now replaced by Nutriferon) was miraculously alleviating allergy symptoms ---even cat and dog allergies! By taking four in the morning, I wouldn't sneeze for the rest of the day, he said! I could hardly believe it. So, I asked Dr. Bruce Miller about this recommendation and he confirmed that enhancing your immune system could rid you of allergy symptoms. Since then, I've been taking four daily during my allergy season and it's worked beautifully for me! On those bad days, I take 4 more at dinnertime and cut down to one serving of Alfalfa per day. No more sneezing! No more itchy eyes! I don't get drowsy from medicines. And I don't have to pay a lot of money to see doctors!!! I'm out playing springtime golf again! Jerry A

Eddie was four years old when his parents, Lori and Lyle A. started noticing his swollen eyes, inability to get any air flow through this nostrils, sinus infections and asthma allergies. It was the beginning of his roller coaster ride with sinusitis. After five years of allergy shots, his doctors concluded the shots were not doing any good. Eddie was taken to Children's Hospital and given a CAT scan which determined he had "ETHMOID DISEASE," (The Ethmoid bone is a sieve-like bone between the nose and sinus close to the brain.) He had polyps in his sinus and a deviated septum. At ten years old Eddie had surgery which rerouted his sinus, removed the polyps and corrected his septum. He could breathe again for three months. Then it started all over again. The polyps were back.

They tried "vacuuming" his sinus. Nothing. He got Prednisone shots INTO his nose. Nothing. He never got over the infections. He has been using antibiotics "forever" according to Lori. Sometimes everyday, for long periods of time. Now at 13 years old, Eddie has lived most of his life with his immune system fighting, fighting, fighting. Four weeks ago, Lori and Kyle completed a health questionnaire for Eddie that pinpoints where the nutritional deficiencies lie. There were several areas that jumped off the page at them and that is where they started. After several days, Lori decided to be extremely aggressive with Eddie's vitamin program. IT'S WORKING!!!

We have all been amazed at what is happening! Eddie, after not being able to get any air through his nose for nine years, is breathing again! He was getting another sinus infection when he began his Shaklee supplement program. Lori decided NOT to go the antibiotic route and just see what happened while taking Shaklee garlic. Normally he used two rounds of antibiotics and it lasted a good two to three weeks. Lori is happy to report Eddie was well in one week and his whole demeanor has changed. He insists on taking his garlic to school. He has more energy and is more enthusiastic. Eddie swims on Mill Creek Swim Team six days a week, completing 15 -20 miles a week. As one of Edddie's coaches, I have noticed a major difference in his workouts. He is turning into a top notch athlete with a lot of focus.

Vita Lea Covers the basics

Protein To rebuild immune system cells that had broken down.

Carotomax Mucus membrane healer

Garlic Bug Killer started with 8/day now 6

B Complex Fights fatigue, energy booster

Vitamin C Nature's antibiotic--antihistamine, fights infection.

Calcim Magnesium Builds and relaxes muscles, stabilizes nervous system **Opti-flora** Two servings per day-to reestablish the healthy flora that long term antibiotics destroyed

Linda had SINUS problems most of her life. Nighttime was a particularly miserable time for her as she couldn't breathe and had to prop herself up on pillows and use nasal sprays and inhalers. her doctor told her the problem was a deviated septum's she had it fixed. She had surgery on her nose. Do you know what happened? You probably guessed it---there was absolutely no difference! Yet, Linda now sleeps comfortably and with no congestion. All she changed was her laundry detergent. She changed from the toxic grocery store brands to one that was environmentally sensitive. (Shaklee Laundry Care Products) It made all the difference in the world for her. Interestingly enough, her children's allergies improved, too!

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TESTIMONY ALLERGY, SINUS - HHP

I had allergy/hay fever/sinus infections every 6-8 weeks for years.and had another one coming on. Then a co-worker gave me 20 Alfalfa and said to take them ALL before leaving work that afternoon. I was stunned that anyone in their right mind would suggest Alfalfa to someone with hay fever, let alone the idea of taking that many pills in just one day, but I trusted him enough to do it. Anyway, I did manage to take them all, and felt a little better the next day (even though I refused to admit it to my friend). I took 20 more the second day, and was breathing clear and free the next morning! I bought a bottle, and continued to take 20 per day for at least 3 months. (I took no other vitamin or herb of any kind at that time.) Eventually I began reducing the quantity of Alfalfa as I increased other Shaklee supplements until I found that my body seems to need only about 12 Alfalfa per day for maintenance. I take the full shelf of products now, and my annual physical lab test results have improved dramatically. It is now 10 years later, I am a Shaklee Coordinator, and have not had a single episode of allergies/sinus issues since that day in the office! HHP

NUTRIENTS THAT SUPPORT THE IMMUNE SYSTEM

The Center for Disease Control has issued a strong warning to stop over-using antibiotics. This push comes in the form of guidelines from the federal Centers for Disease Control and Prevention, which now believes that the overuse of antibiotics is contributing to an alarming rise in the number of diseases that are impervious to drugs. The CDC recommended improvements in basic housekeeping, focusing on phones, dirty walls and patient charts, and suggested that physicians should not prescribe antibiotics for the treatment of colds, where they have little value. The guidelines said that doctors should not prescribe antibiotics in low doses or for short periods

Scientifically Advanced Vita-Lea (with and w/out iron)

Provides a comprehensive balance of essential nutrients. Vita-Lea's bioavailability has been proven through independent clinical research. Contains gentler, better tolerated forms of zinc and protein-bound trace minerals for easier digestion.

_ Vita-C, 500 mg. Sustained Release

Antioxidant property protects the body against free radicals. Boosts the immune sys tem, infection fighter, natural antihistamine, increases the resistance to ligament and tendon injury. Vitamin C is depleted by stress such as infections, illness, fatigue, surgery, anxiety, pollution and extremes in temperature. As we age, there is a greater need to regenerate collagen which requires more vitamin C.

_ Immune Building Complex (Nutriferon)

Developed and extensively tested by immunologists in Japan, an exclusive, proprietary blend of natural plant extracts from pumpkin seeds, safflower flowers, plantago seeds, and Japanese honeysuckle flower buds, which has been clinically proven to support and stimulate the natural immune response process at the cellular level. Supports and stimulates the immune system, by increasing the activity of macrophages and inducing natural interferon production. Optimizes immune response against environmental irritants and airborne substances (as with allergies and asthma). Completely safe – no adverse reactions to these plant extracts ever recorded

Formula I

The American diet is low in immunoactive nutrients which are known to help nourish the immune system. Immunity Formula I contains the key vitamin and minerals that support the immune system. Reduces frequency, severity and duration of illness. Speeds wound healing and may reduce allergy symptoms.

Garlic Complex

Two-way odor control with a gentle, temperature-controlled drying process and with a pleasant blend of spearmint and rosemary extracts. Historically, has been used for congestion, asthma, sinusitis and allergies, colds, flu and pneumonia, sore throat and bronchitis. Has anti-bacterial and anti-fungal properties and is effective against yeast infections (Candida). Nature's strongest natural antibiotic.

Optiflora

This advanced colon care system contains Acidophilus and Bifidus, essential friendly bacteria that ideally live in our lower intestines. Research shows, however, that most adult Americans only retain about 15% of these microflora, rendering our bodies (and especially our immune systems) vulnerable to toxic build-up. The Optiflora system also includes the prebiotic FOS and inulin to provide nutrients that selectively feed the good microflora for rapid colonization. It is the only product of its kind to guarantee delivery of live beneficial microflora to the intestines, due to its unique triple encapsulation that protects these essential bacteria from the acidity of the stomach.

Defend & Resist Complex (Echinacea)

Promotes production of white blood cells, enhances resistance to infection, viral and bacterial, especially flu and herpes; reduces mucus. Works best when started at the onset of cold or flu symptoms. Can be used effectively for up to 10 days at a time

Other nutrients to consider

CarotoMax

Essential for healthy mucosal membranes in the digestive, respiratory and reproductive tracts. Reduces susceptibility to infection, allergies, bronchitis, asthma, ear infection and skin disorders.

Contains other naturally occurring carotenoids such as alpha carotene and other types of betacarotene.

Flavomax

These powerful antioxidants increase the power of the immune system to fight infection, are natural antihistamines, are antiviral and antibacterial because they interfere with the actual mechanism of some of these organisms, lower risk of many cancers including gastric cancer. Even little ones who may not list vegetables in their top 10 favorite foods can still get the benefits of vegetables in a capsule that can be opened and the antioxidant-rich powder poured in their juice or morning Protein Shake.

_ Vita-E Complex

Anti-oxidant that protects against cell damage. Helps to prevent heart disease, Parkinson's; protects lungs from air pollution, protects cells from premature aging, helps cystic breast disease, improves circulation, promotes healing. Our immune systems decline with age. Vitamin E enhances immune responsiveness in the elderly. Shaklee's Vita-E is in a natural d-alpha form and is more biologically active than synthetic vitamin E. Provides the full spectrum of tocopherols found in nature Use Basic-G Germicidal Cleaner In Your Home

Cleans, disinfects and deodorizes in one step. Basic-G kills 33 different types of germs, including feline leukemia and canine parvovirus. In laboratory conditions using E Coli, resistant bacteria that contaminates meats, Basic-G killed the organism and continued to work for three days after the initial use. Household bleaches lose their effectiveness within one hour. Spray on kitchen counters after preparing meats to prevent risk of E Coli contamination.

ALLERGIES AND Vitamin D by Dr. Stephen Chaney

Dr. Stephen Chaney is a frequent spokesman for health and nutrition issues. As a professor of biochemistry, biophysics and nutrition at the <u>University of North Carolina, Chapel Hill, he</u> teaches nutrition to medical students and has conducted a cancer research project for nearly 30 years. His name is on over 80 published studies in peer-reviewed journals.

With the beautiful Spring flowers comes a whole new allergy season. And, of course, not all allergies are seasonal. Allergies to foods, animal dander, mold and dust mites occur all year around. If your children suffer from allergies, here is something that you should know: Dr. Michal Melamed and colleagues have just reported a major clinical study (Journal of Allergy and Clinical Immunology, published online February 16, 2011) showing that children and adolescents with low blood levels of vitamin D are much more likely to suffer from allergies than those with adequate blood levels of vitamin D.

They looked at vitamin D status (as measured by 25- hydroxy vitamin D levels in the blood) and sensitivity to 17 different common allergens in 3136 children and adolescents aged 1 to 21 in the NHANES (National Health and Nutrition Examination Survey) database from 2005 and 2006.

The data were adjusted for age, gender, ethnicity, obesity, socioeconomic status and hours spent watching television, playing video games or on the computer (a measure of activity level - or more strictly speaking inactivity level). They found that children and adolescents with low blood levels of vitamin (< 15 ng/ml of 25-hydroxy vitamin D) were significantly more likely to suffer from 11 of the 17 allergies tested than those with adequate blood vitamin D levels (> 30 ng/ml of 25-hydroxy vitamin D). For example, they were significantly more likely to suffer from allergies to peanuts, ragweed, oak, dog dander and dust. This is an important finding because previous studies by Dr. Melamed and others have shown that up to

70% of children in this country have low blood levels of vitamin D and that the incidence of vitamin D deficiency has increased significantly in recent years - perhaps linked to all the video games & computer use of today's children.

Dr. Melamed suggested that it is perhaps no coincidence that many children suffer from allergies and that the incidence of allergies in children is also increasing. Around 16 million children (16% of the population) suffer from allergies, and the incidence of children suffering with allergies has increased by 18% in just the last 10 years. So, if your children suffer from allergies, one thing that you could do for them is to make sure that they are getting sufficient levels of vitamin D in their diet. Dr. Melamed states: "The latest dietary recommendations calling for children to take in 600 IU of vitamin D daily should keep them from becoming D deficient." Of course, vitamin D is not a magic bullet. It is just one of many things that you can do to reduce the risk of allergies in your children. A holistic approach to allergy reduction would include

a good diet that provides all of the essential nutrients and a supplemental source of friendly bacteria to support a healthy intestine and immune system.

It would also include non-toxic cleaning products to reduce environmental allergen exposure.

To Your Health!

Dr. Stephen G Chaney

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Antibiotics alter GI tract microbes and increase lung sensitivity to allergens

Study could help explain increasing rates of asthma, allergies and inflammatory diseases.

Allergies making your life miserable?

Tired of popping antihistamines like candy? Can't go anywhere without your inhaler? The real problem may not be your stuffed-up head. It could be the microbes in your gut.

At the American Society for Microbiology meeting held here this week, scientists from the University of Michigan Medical School will present results of experiments with laboratory mice indicating that antibiotic-induced changes in microbes in the gastrointestinal tract can affect how the immune system responds to common allergens in the lungs.

"We all have a unique microbial fingerprint – a specific mix of bacteria and fungi living in our stomach and intestines," says Gary B. Huffnagle, Ph.D., an associate professor of internal medicine and of microbiology and immunology in the U-M Medical School. "Antibiotics knock out bacteria in the gut, allowing fungi to take over temporarily until the bacteria grow back after the antibiotics are stopped. Our research indicates that altering intestinal microflora this way can lead to changes in the entire immune system, which may produce symptoms elsewhere in the body."

If confirmed in human clinical studies, Huffnagle believes his research findings could help explain why cases of chronic inflammatory diseases, like asthma and allergies, have been increasing rapidly over the last 40 years – a time period that corresponds with widespread use of antibiotics.

To understand the implications of the U-M research, it's important to know something about the complex relationship between the gastrointestinal, respiratory and immune system in the human body. Every time you inhale, air flows past mucus-producing cells and tiny hairs designed to trap bits of pollen, dust and spores before they enter the lungs. These trapped particles are swept into the stomach with saliva and mucus as you swallow.

"Anything you inhale, you also swallow," Huffnagle says. "So the immune cells in your GI tract are exposed directly to airborne allergens and particulates. This triggers a response from immune cells in the GI tract to generate regulatory T cells, which then travel through the bloodstream searching the body for these antigens. These regulatory T cells block the development of allergic T cell responses in the lungs and sinuses." Most of the time, in ways scientists don't completely understand, the GI tract immune system modulates or dampens down the allergic T cells' response to incoming allergens in the lungs, according to Huffnagle. But when antibiotics reduce the bacterial population in the GI tract, the number of yeast and other fungal organisms increases. In previous studies, researchers in Huffnagle's lab discovered that fungi secrete molecules called oxylipins, which can control the type and intensity of immune responses. Huffnagle says this suggests the intriguing possibility that fungal oxylipins in the GI tract prevent the development of regulatory T cells for swallowed allergens. In the absence of regulatory T cells from the GI tract, T cells in the lungs become sensitized to the presence of ordinary mold spores, pollen or other allergens. The result is a hyperactive immune response, which can produce allergy symptoms or even asthma. To test Huffnagle's hypothesis, Mairi C. Noverr, Ph.D., a U-M research fellow in internal medicine, gave a five-day course of oral antibiotics to normal lab mice followed by a single oral introduction of the yeast, Candida albicans, to create a consistent, reproducible colony of microbes in the stomach and intestines. C. albicans is normally found in the GI tract, and increased growth of C. albicans in the gut is a common sideeffect of antibiotics.

Two days after stopping the antibiotics – at a time when the gut bacteria were growing back - Noverr exposed the mice to a common mold allergen called Aspergillus fumigates by inoculating spores into the nasal cavities of all the mice in her study. She then examined the mice for the presence of an allergic response in the airways and compared results between the mice that received antibiotics and those that did not.

"Mice treated with antibiotics and colonized with C. albicans showed increased pulmonary hypersensitivity to A. fumigatus compared with mice that didn't receive antibiotics," Noverr says. "The inflammatory response grew stronger with every exposure to the allergen."

"After antibiotics changed the mix of microbes in the GI tract, the mice developed an allergic response in the lungs when exposed to common mold spores," Huffnagle explains. "Mice that didn't receive the antibiotics were able to fight off the mold spores." Huffnagle and Noverr will discuss details of the experiment in a symposia lecture and poster presentation at the ASM meeting. Complete data from the study has been submitted for publication in a future issue of Infection and Immunity.

Huffnagle maintains that disruptions in the growth of bacteria and fungi in the GI tract somehow interfere with the ability of regulatory T cells to dampen the immune response to respiratory allergens. In future research, he hopes to determine exactly how gastrointestinal microbes are involved in the process of immune system modulation. "We know from laboratory experiments that dietary antioxidants called polyphenols, which are found in fruits and vegetables, can limit fungal growth and that a diet high in saturated fats and sugars slows the recovery of normal gut microflora," Huffnagle adds. "The Mediterranean diet is rich in sources of polyphenols, so it's intriguing that Mediterranean-diet countries have lower rates of allergies, asthma and other inflammatory diseases than Western-diet countries like the United States, Canada and England.

"If we can determine exactly how microflora in the GI tract affect the immune system, it may be possible one day to prevent or treat allergies and inflammatory diseases with diet changes or probiotics – dietary supplements of 'healthy' bacteria designed to restore the normal balance of microbes in the gut," Huffnagle adds. "In the medical community, probiotic therapy is becoming an area of increasing interest."

Until then, Huffnagle emphasizes the importance of a healthy low-sugar diet, with lots of raw fruits and vegetables, after being treated with antibiotics to help restore the normal mix of microbes in your GI tract as quickly as possible. "The old saying, 'an apple a day keeps the doctor away' may be more true than we thought," he says. Huffnagle's research has been funded by the National Institutes of Health and a New Investigator Award from the Burroughs-Wellcome Fund. Other collaborators in the research include Dennis M. Lindell, a U-M graduate student in immunology, and Rachel Noggle, a research assistant in internal medicine. From www.scienceblog.com

This information is not to replace medical care; to diagnose, treat, or cure.

WHAT I SHOULD KNOW ABOUT ALLERGIES

No one knows exactly why some people develop allergies. One theory links allergic reactions to parasite infection.(2) This theory proposes that the human immune system has developed a high sensitivity to parasites. When a parasite infects the body, according to the theory, production of white blood cells increases, along with substances involved in allergies that cause inflammation. In developed countries, where parasitic infestation is relatively low, allergies are more common than in less developed countries. It is thought that when the immune system is fighting parasitic infections, it does not have the resources to defend against less threatening agents. Another theory is that people with poor intestinal health may be more prone to allergies.

Genetics appear to play a significant role in allergies. Some people inherit the tendency to make more IgE antibodies in the bodies than normal. Children whose parents both have allergies are twice as likely to develop allergies themselves.(3) Repeated exposure to allergens and environmental pollutants may stimulate the production of IgE antibodies.(4) The prevalence of allergy-related conditions, such as asthma and eczema, has risen steadily since the 1960's, perhaps in conjunction with increasing levels of pollutants.(3) One factor

in the development of allergic reactions is the absent or weak response of the T suppressor cells. In non-allergic individuals, suppressor T cells keep the antibody response under control. In allergy prone individuals, this function of the T cells is not as effective.

Statistics

American Academy of Allergy, Asthma and Immunology in San Diego, 1999.

- 50 million people suffer from allergies.
- Of these, 1/6 have allergic asthma.
- 6 million have non allergic asthma caused by exercise, chemical pollution, and smoking.

Signs and Symptoms

Allergic reactions are classified into four different types: Type I, Type II, Type III, and Type IV. Type I and Type

IV are the most common. Type I allergic reactions occur within minutes after exposure to an allergen. The most immediate of the four types, they can be severe and even fatal. A lifethreatening Type I allergic reaction is known as anaphylaxis or "anaphylactic shock." An example of this is severe allergic reaction to a bee sting. An allergy to shellfish that causes a person to break out in hives is another example of Type I. Type I reactions can be local, such as a localized skin rash, or systemic. Local reactions may include asthma, rhinitis, hay fever, gastrointestinal upset, eczema (atopic dermatitis), and conjunctivitis. Other symptoms may include headache, fever, fatigue, diarrhea, and vomiting.(1) Symptoms of anaphylaxis include hives, itching, a severe drop in blood pressure, shock, irregular heartbeat, and swelling of the throat and larynx (voice box). Seizures may occur. The victim may feel hot, anxious, and have difficulty swallowing.

Type IV reactions, known as delayed hypersensitivity reactions, appear 24 to 72 hours after exposure to the allergen. Contact dermatitis from exposure to chemicals, plant toxins, or cosmetics is a delayed hypersensitivity reaction. Type IV reactions typically occur when small molecules called "haptens" bind with certain proteins in the blood. The immune response to this can result in localized tissue damage, causing symptoms such as red, itchy, and skin sores.

Hay fever (*Allergic rhinitis*) and conjunctivitis, (inflammation of the eyelid) are the most common manifestations of allergic reactions. These occur when environmental allergens contact mast cells in the membranes of the nose and eyes. Nasal congestion and discharge, sneezing, itchy eyes, and tearing are classic symptoms. *Urticaria*, or hives, is an allergic skin reaction characterized by round, elevated patches (wheals) with severe itching. Hives are most often caused by a reaction to food or

drugs. Hives occur in outer layers of the skin. *Angioedema* is a similar reaction of the deep or subcutaneous layers of the skin. Urticaria and angioedema may last for as long as six weeks. *Allergic asthma* is an immediate hypersensitive reaction that occurs in the lungs. The bronchial passages swell up and become inflamed, causing wheezing and difficult breathing. Severe attacks can produce the sensation of suffocating. Pollen, dust, smoke, automobile exhaust, and animal dander are antigens that commonly trigger allergic asthma.

Gastrointestinal allergies are involve mast cells of the GI tract. Exposure to antigens (most commonly food) produces nausea, cramping, vomiting, and diarrhea.

Atopic dermatitis (eczema) cause dry, scaling, itchy, cracked, and bleeding patches on the skin. Eczema can be triggered by exposure to dust, pollen, or antigenic foods. Contact dermatitis is another form of eczema. This type of reaction, therefore, can be an immediate or delayed allergic reaction.

The following list does not insure the presence of this health condition. Please see the text and your healthcare professional for more information.

Reactions Limited to Exposed Body Parts

Asthma

Runny nose

Hay fever

Stomach or intestinal upset

Dry, scaling, itchy, cracked, and bleeding patches of skin

Burning itching eyes

Headache

Fever

Fatigue

Diarrhea

Vomiting

Severe Whole Body Reactions

Hives

Itchy sensation

Drop in blood pressure

Shock

Irregular heart beats

Swelling and closing of the throat

Vomitina

Difficulty swallowing

Anxiety

Warmth

Type IV Delayed Hypersensitivity

Warm, flushed patches on the skin

Itchy sensation

Sores on the skin

Other

Allergic rhinitis and conjunctivitis presents as nasal congestion and discharge, sneezing, itchy swollen eyes, and

tearing

Urticaria or hives is characterized by round, elevated patches (wheals) on the skin with severe itching Angioedema is like hives and fluid build-up in the deep layers of the skin

Allergic asthma can result in difficulty breathing and wheezing

Allergies of the digestive tract nausea, cramping, vomiting, and diarrhea

Atopic dermatitis or eczema is dry, scaling, itchy, cracked, and bleeding patches of skin.

Footnotes

- 1 Smeltzer SC, Bare BG. Medical-Surgical Nursing. Philadelphia: JB Lippincott Co; 1992.
- 2 Vanderhaeghe L, Bouic P. The Immune System Cure. New York: Kensington Books; 1999:156-174.
- 3 Hara H, et al. Short chain fatty acids suppress cholesterol synthesis in rat liver and intestine. J Nutr. May1999;129(5):942-8.

View Abstract

4 Marz RB. Medical Nutrition from Marz. Portland, OR: Omni-Press; 1997. This information is not intended to replace medical care; to diagnose, to treat or to cure.