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Health Hunters Newsletter

A service of the Riordan Clinic, cofounded in 1975 by Olive W. Garvey and Hugh D. Riordan. The Riordan Clinic is a not-for-profit 501(c)(3) corporation. Go to www.riordanclinic.org to make your tax deductible donation today or visit us at 3100 N. Hillside, Wichita, KS 67219.

Inside This Issue

Vaccines: The Short on Shots

by Anne Zauderer, DC

There are certain rites of passage that every child goes through. Those moments that define childhood: losing a tooth, learning to ride a bike, the first day of school, the nauseating anticipation of going to the doctor to experience the most painful form of childhood torture—shots! As a child, there is nothing worse. However, all of the pain and agony is worth it to protect our children against deadly childhood diseases. Right?

Vaccines have become an unquestioned, essential component of the childhood wellness care paradigm in our medical profession. They have been heralded as one of the greatest medical advancements in the 21st century. No question, they have saved countless lives and prevented disease in thousands of children. However, how many of us really understand how vaccines work? What is it that we are injecting into our children? What are the benefits and risks? My purpose for this article is to leave emotion out of this highly-charged conversation and just educate, for:

> "Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family." (Kofi Annan)

Edward Jenner is credited with developing the first vaccination. Up to that point, inoculation (administering full-strength pathogens to induce an immune response) was a standard practice, but it carried a much higher risk. Jenner's discovery was based on an observation that milkmaids were generally immune to smallpox. He theorized that their exposure to cowpox (a disease similar to smallpox, but much less dangerous) protected them against smallpox. Thus the idea of utilizing a weakened form of a pathogen to induce an immune response was born.

Jenner's work is the premise behind how vaccines work today. The vaccines that are currently used are a weakened form of a bacteria or virus. They are combined with agents that stimulate the immune system into a hyper-responsive state so that the body will develop protection against that particular strain.

Before we get into the different types of vaccines, let's take a look at how our immune system works. Typically, when an antigen is encountered by the immune system for the first time, it takes a relatively long period of time for a defense to be mounted; this is known as the **primary response**

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From the Editor:

Thank you for reading our *Health Hunters Newsletter*; we appreciate your support. Make sure to visit our website for more information on important health topics, clinic therapies, research articles, and much more.

Please send any comments or suggestions to newseditor@riordanclinic.org.

In Health,

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Health Hunters Newsletter

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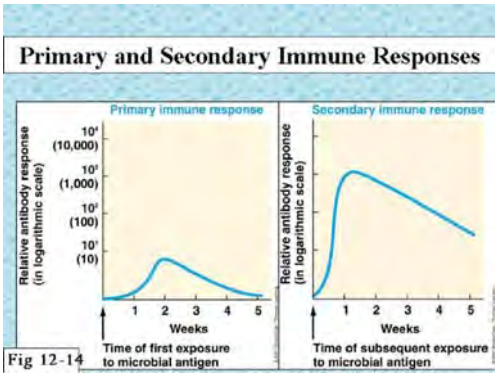


Figure 1: Source: http://www.as.wvu.edu

(Figure 1). The T-cells and B-cells, which make up the immune system, must first identify the antigen, activate, and then replicate. Cytotoxic T cells must kill the infected cells and B cells must produce plasma cells that secrete antibodies that bind and neutralize the agent. However, one of the key components of the primary response is the fact that the T-cells and B-cells produce **memory cells** that remain in the body. This provides a shortcut so that the next time that particular antigen is encountered, the response will be much faster and much more potent; this is known as the secondary response. The **secondary response** not only occurs faster, but more antibodies are produced and the response lasts a longer period of time.

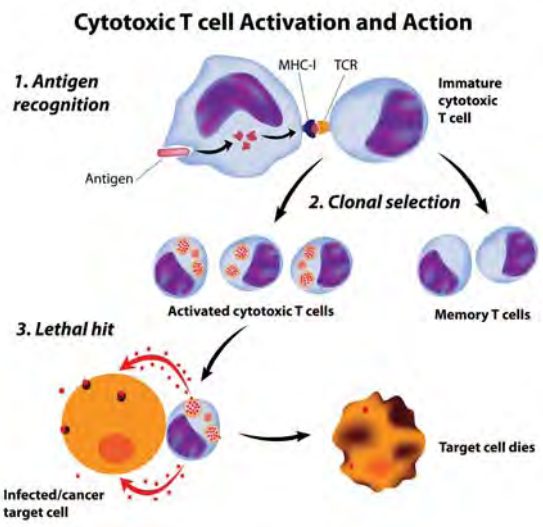
This mechanism of response of our immune system is the premise behind a vaccine. Vaccines take a weakened or dead preparation of pathogens and stimulate the immune system to respond and produce memory cells without the host person ever getting "sick." This is known as artificial immunity. In concept, this is brilliant. However, in reality there are some concerns in how scientists prepare the pathogens and stimulate the immune system to respond to their weakened form. Let's look in greater detail at the process of preparing the vaccines and some of the chemicals and agents that are used.

There are four basic types of vaccines (See Figure 2 for individual vaccine types):

1. Live, attenuated
2. Inactivated/killed
3. Toxoid (inactivated toxin)
4. Subunit/conjugate

The **live, attenuated vaccines** are made by a process where the virus is passed through a series of (up to 200) cell cultures. These cell cultures are a single type of cell that multiplies in a predictable fashion so that it can be grown in a laboratory for a long period of time. The cell lines that are used in cultures to make vaccines are taken from a variety of sources: monkey embryos, kidney cells, chicken embryos, rabbit embryos, and aborted human embryos. The premise behind this practice is to produce a version of the virus that can be recognized by the human immune system, but cannot replicate well in the human host cells. The major risk with this form of a vaccine is that the virus will revert back once injected or mutate into a form that is a more virulent strain.

An **inactivated/killed** vaccine is made by using heat or chemicals, such as formaldehyde. (Remember the frog you dissected in high school biology? It was preserved in formaldehyde, a highly toxic chemical). The heat and chemicals destroy the virus' ability to replicate, but keeps the virus in a form that is recognizable by the immune system.



A **toxoid (inactivated toxin)** vaccine is designed to protect against certain strains of bacteria. The bacteria release a toxin, which is the agent that makes you sick. The vaccine is made by inactivating (with formalin, or formaldehyde) the toxin into an inactive form.

The final, most common types, are **subunit and conjugate** vaccines. Both of these types use component pieces, such as proteins, to stimulate an immune response. Scientists use these components in different ways such as attaching them to carrier proteins, inserting them into other viruses called producer cells, and isolating specific proteins.

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Patient Profile:
Acidic pH and the Battle Against Cancer

by Victoria Hamm, Certified Medical Assistant

Whether you would like to improve your diabetes or cancer situation, lose weight, or just want to have more energy, you need a more alkalizing diet.

How do our bodies become acidic? Much of our modern diet is acid forming and most of our body functions—movement, thoughts, etc.—also produce acidic waste. Fortunately, our bodies have processes that work to eliminate the acid byproducts. But if we're over acidic, our body's "balancing" processes become overworked as they try to get rid of the acid.

As cancer patients come into the clinic, they are shown the link between acidic pH and cancer. Cancer thrives in an acidic environment and doesn't survive in a normal, more alkaline environment. Cancer cells make your body even more acidic as they produce lactic acid. So if you have cancer, your pH levels are low and your body is too acidic. A patient here at the Riordan Clinic is taking action to make her body more alkaline, which is vital in the battle against cancer. The majority of the foods and drinks many of us consume are acidic, such as meat, grains and sugar, with colas and other soft drinks being highly acidic. This patient has changed to eating a very healthy diet, full of fresh fruit and vegetables, so her body isn't too acidic. This is helping her body so her cancer does not grow or feed on the acidic foods she eats.

With the help of our doctors here at the Riordan Clinic, you can change your diet and learn about how to balance your pH level to help your body stay more alkalized. Call today to schedule your appointment.

To find out more about how our medical team can help you or to make an appointment, call **316-682-3100** and start your journey to better health.

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VACCINE TYPE	VACCINES OF THIS TYPE ON U.S. RECOMMENDED CHILDHOOD IMMUNIZATION SCHEDULE
Live, attenuated	Measles, mumps, rubella (MMR combined vaccine) Varicella (chickenpox) Influenza (nasal spray) Rotavirus
Inactived/killed	Polio (IPV) Hepatitis A
Toxoid (inactivated toxin)	Diphtheria, tetanus (part of DTaP combined immunization)
Subunit/conjugate	Hepatitis B Influenza (injection) Haemophilus influenza type b (Hib) Pertussis (part of DTaP combined immunization) Pneumococcal Meningococcal

Figure 2: Source: http://www.historyofvaccines.org

So, what other ingredients are in vaccines? This is where the controversy for a lot of parents heats up. For the vaccines to do their job effectively, the immune system needs to react to them. To help the immune system "recognize" the vaccines better, certain adjuvants are added, such as aluminum. Aluminum is considered harmless if swallowed, but when injected into the bloodstream it has been shown to build up to toxic amounts in the bloodstream, bone, and brain. It is a known neurotoxin at high concentrations in the brain. The FDA recommends a minimum amount of 5 micrograms per kilogram as a measure for what a healthy, infant's kidneys can clear in one day (no maximum dose was given). So, as an example, a 12-pound infant could easily clear 30 micrograms, a 22-pound infant could clear 50 micrograms of aluminum per day[3]. The average amount of aluminum in vaccines varies from 125–850 micrograms per vaccine (average of about 250 micrograms). You can multiply those numbers by the number of vaccines given at each appointment and the number is huge! What's even more concerning is the lack of testing and research in this area. No studies have been done to show how quickly the aluminum would perfuse from the muscle tissue into the bloodstream after the vaccine is given or the excretion of aluminum in the urine in the days after the vaccine is given. What also isn't known are the effects of aluminum on an infant's brain. Animal studies show damage similar to Alzheimer's disease, but we don't know exactly what that looks like in humans[3].

Other additives to watch out for in vaccines include[3]:

1. **Thimerosal** (or mercury)—this known neurotoxin was used as a preservative in vaccines. Vaccines in the early 1990s contained upward to 87% more mercury than what was considered safe in infants. Thankfully it has been reduced or removed from most vaccines. However, some brands still contain the full 25 microgram dose.
2. **Formaldehyde** (or formalin)—used in the production of vaccines as well as used as a preservative, this chemical is listed by the EPA and Consumer Protection Agency as a carcinogen (cancer-causing agent) as well as warning that it could cause kidney disease or genetic damage.
3. **MSG (monosodium glutamate)**—a toxic chemical that has an excitatory effect on the brain. Yes, this is the same chemical used as a flavor enhancer in fast food.

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4. **EDTA**—a chemical used for many things including: dissolving limescale, chelating mercury and lead, and as a stabilizing agent in certain cosmetics. Some studies suggest that it is cytotoxic and minimally genotoxic in animals.
5. **2-Phenoxyethanol**—chemical preservative that may cause reproductive defects.
6. **Sodium Borate** (otherwise known as Borax)—an agent used in vaccines as a buffering agent. It is used commercially in detergents, cosmetics, and household cleaners. It has been banned in the United States as a food additive.
7. **Octoxynol**—used as a spermicide in other products. It is also a potential endocrine disruptor.
8. **Sodium Deoxycholate**—irritating to the eyes, skin and lungs if inhaled or absorbed by the skin.

The chemical agents in the list above are all in very small doses in vaccines and well below acceptable levels. Though, the biggest concern with each of them is that research has not been done to measure their cumulative effect in the bodies of infants. I am of the opinion that the utmost care and concern needs to be taken when dealing with the fragile constitutions of babies. Caution must be used when injecting substances directly into their bloodstream. The field of homeopathy uses dilutions of substances in miniscule amounts and profound effects can be seen on the body. The same care needs to be considered when using the agents in vaccines.

One question to ponder with this discussion is, "Where do we stop?" We could, theoretically, develop a vaccine for every virus or bacterial strain out there. Where do we draw the line and say that it's enough? What is that threshold? I am of the opinion that instead of putting all of our efforts toward finding ways to artificially stimulate a child's immune system we should constantly be finding ways to build up their immune system so that it can fight whatever it encounters. This doesn't mean that kids don't get sick, but just that we believe enough in their immune system to be able to fight. **Natural immunity** is much more potent than **artificial immunity.** Some of the best ways to build a child's immune system are to: breastfeed, avoid antibiotics for minor colds, train children to eat healthy from the beginning, avoid sugar, and supplement with proper vitamins during periods of sickness.

When broaching the subject of vaccines, I encourage every parent to make the decision that is best for them and for their families. Though I do believe a topic like this should not be taken lightly. We are talking about the future generation and the early years are some of the most formative neurologically, emotionally, and physically of a child's life. We have to be sure beyond a shadow of a doubt that what we are doing is in our children's best interest and continually asking if there is a better/safer way to do things. Education is the most powerful tool we have. It empowers us to make the decisions that are right for us and our families. I hope this article is just the beginning in learning about this topic.

I suggest reading Dr. Robert Sear's book, The Vaccine Book, for resources and alternatives to the traditional schedule.

1. http://www.as.wvu.edu
2. http://www.historyofvaccines.org
3. Sears, R. (2007). The Vaccine Book. New York: Little, Brown and Company.

Did you know?

It is important to be at optimal health when being vaccinated to prevent side effects. If your child is ill or not feeling well, WAIT. Also keep in mind, if your child experiences a slight fever after the MMR vaccine, do not use acetaminophen to reduce the fever. The results of a 2008 parent study by Stephen T. Shultz et al. found that acetaminophen use after a MMR vaccination was significantly associated with autistic disorder.

Consult your holistic health professional about natural ways to support your child's immune system while getting vaccinated or withholding from vaccinations.

Some nutrients commonly used by Naturopathic Doctors (NDs) and Chiropractic Doctors (DCs) for preventative health and immune support:

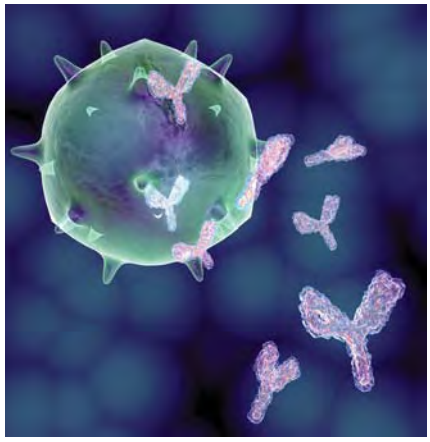
Vitamin A	Echinacea
Vitamin C	Probiotics
Vitamin D	Larch
Elderberry	Fish Oil
Iron	Calcium
Zinc	

Talk to your doctor about which ones are right for you or your child.

The National Vaccine Information Center encourages parents to become fully informed about the risks and complications of diseases and vaccines and speak with one or more trusted health care professionals before making a vaccination decision. Review the "If You Vaccinate, Ask 8 Questions" brochure at www.nvic.org/Ask-Eight-Questions.aspx for more information.

The Development of the First Vaccine

by Veronica Rotari, Research Assistant



The word vaccine may bring to one's mind the notion of "protection from disease'" and rightfully so, as some death causing diseases have been eradicated and others prevented, and the ambitious prospects of vaccines targeting cancer and AIDS inspire hope for a disease-free world. Currently vaccines exist for multiple diseases and the development of new vaccines, while a long process requiring testing and validation, is very straightforward once the target pathogen is isolated and characterized. But just a few centuries ago this was not the case.

How does immunity work?

The process through which our immune system distinguishes pathogens starts with the "recognition" step. Every cell in our body has receptors on its surface. Bacteria and microbes have receptors as well; these "tags" are the elements that specialized cells in our immune system recognize as foreign. The immune system then creates antibodies, a process which takes about a week on average,

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Invest in the Vision

Mavis Schultz Scholarship Fund

"From the minute I walked in your clinic, I felt an unbelievable warmth and passion for others," writes one patient. Another says, "I can't thank them enough for their devotion and kindness." Riordan Clinic staff have a passion for helping others and believe that is the ultimate job satisfaction. There is no better example of this passion and integrity than Mavis Schultz who retired last year after 35 years of service. A nurse and patient advocate she was usually the first person people spoke with when considering our services.

Mavis remained concerned over the years for those with serious health needs but without the financial means to receive our services. As a retirement tribute, the Mavis Schultz Patient Scholarship Fund was established. Contributions were matched by the Riordan Clinic, with physicians and professional staff determining the fund recipients.

Once again this year, we want to give you an opportunity to honor Mavis with a gift to the scholarship fund. Funds received will be matched by the Riordan Clinic. Mavis, who now lives in Ohio, closer to her family, will receive a list of those who contribute.

You may make your tax-deductible gift online or by mail to Riordan Clinic at 3100 N. Hillside, Wichita, KS 67219. **Please indicate that you want the contribution to go toward the Mavis Schultz Patient Scholarship Fund.** Call Paula Smith at 316-682-3100 if you have any questions.

Thank you for helping us honor one of our very best while giving others the opportunity for hope and health.

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which neutralizes the antigen. These antibodies are specific to the antigen in question and remain in the body for the individual's life. That is why once vaccination occurs, or a person experiences the disease, he or she will most likely never experience it again. A common misconception is that some of the diseases we are vaccinated against are nonexistent in the modern world. However, it is possible that we would become exposed to them during our lifetime, but never experience the full blown symptoms due to our immune system's "memory," in the form of antibodies, that combat the pathogen very early into its infection.

History of Vaccination

The history of vaccination begins with the history of smallpox, a disease that plagued mankind since 10,000 BC. Lesions, resembling those characteristic to this disease have been found on the faces of mummies from the 18th and 20th Egyptian dynasties (1570–1085 BC). As trading was a very necessary part of the life of ancient people, smallpox spread, with cases being reported as early at 1122 BC in China and described in ancient Sanskrit texts of India.

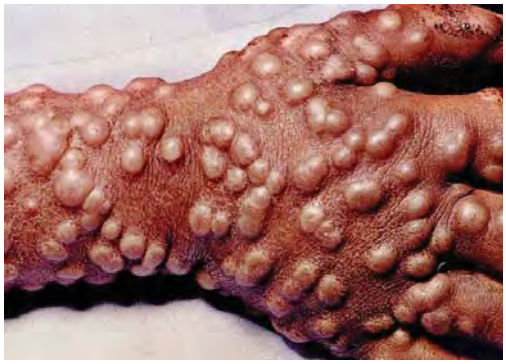
In Europe, smallpox was a frequent epidemic between the 5th and 7th centuries affecting a great number of the population and halting development. Coincidentally the first stages of the decline of the Roman Empire occurred during a large scale epidemic—which killed 7 million people. Smallpox was introduced to North America with the conquest of this territory by the Spanish and the Portuguese. This disease spread rapidly playing a role in the demise of the Aztecs and Incas. All levels of society were affected in some degree—in 11th century Europe—400,000 died annually, and one third of survivors were blinded by the disease.

The disease was characterized by "speckled" skin lesions that left extensive scarring with a high fatality rate of 20–60%. Those who survived the disease had disfiguring scars and risked losing their sight. The fatality rate was greatest in children—reaching 80–98%.

Some names for the disease were variola (first introduced by Bishop Marius of Avenches) derived from the Latin word meaning stained; or "small pockets"—a term used to distinguish this disease from syphilis—considered the "great pocket" in 18th century England.

The eradication of small pox started with a few medical observations, for example, it was common knowledge that those surviving the disease became immune to it. A variety of herbal remedies were also used and survivors were called upon to nurse those who were sick.

Inoculation (or variolation) was the next step. This was a process which involved grafting liquid from the lesions of an infected person (with a lancet) and subcutaneous introduction of that material into a healthy individual. This method was successful, but carried the risk of developing into a fully blown infection or resulting in the transmission of other diseases such as syphilis, through the transmission of blood matter. Variolation first became a practice in Africa, India and China. It was later introduced to Europe with the arrival of travelers from Istanbul, such as Emmanue Timoni and Giacomo Pilarino, both of whom sent word to the Royal Society of London describing the techniques they had witnessed in Istanbul. However, governing medical authorities remained skeptical.



Lady Mary Worley Montague was ultimately the person responsible for the advocacy of variolation methods in England. After suffering the devastating disease herself, she ordered an embassy surgeon to perform the procedure on her 5-year-old son, and later in the presence of the royal court, on her 4-year-old daughter. A medical trial of sorts followed; 6 prisoners in New Gate were inoculated on August 9, 1721. All 6

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survived, became immune to the disease, and were granted amnesty for their participation. The experiment was then repeated successfully on orphaned children, and used to treat the Prince of Wales' two daughters.

Despite a 2–3% fatality rate associated with infection during the inoculation procedure itself, inoculation spread and became popular among all income levels. Variolation also became a practice in the new world, despite the unwelcoming reaction with which it was initially received. Two pioneers of this method were Reverend Cotton Mather and Doctor Zabdiel Boylston – they were the first ones to use statistics to show a mortality rate of only 2% of those infected by variolation as compared to 15% in those who contracted the disease naturally, during the 1721 Boston epidemic.

In 1757, Edward Jenner, an 8-year-old boy with a curiosity for medicine, was inoculated as well. He developed a mild case of small pox and became immune. His curiosity led him to become an apprentice in the apothecary of a surgeon; there he heard a milk maid say, "I shall never have smallpox for I have had cowpox. I shall never have an ugly pockmarked face." Jenner went on to acquire more medical knowledge, becoming a very well respected surgeon and biologist. Although his medical career took him onto numerous paths of medical marvel and discovery, Jenner never forgot the tales of milkmaids protected from smallpox. Jenner concluded that cowpox not only protected one from smallpox, but could also be transmitted from one person to another, as a deliberate method of protection.

In 1796, Jenner found a milkmaid with "fresh" cowpox lesions; he used the liquid from those lesions to inoculate an 8-year-old boy. The boy developed mild fever, but quickly recovered 10 days after the procedure. Afterwards, Jenner inoculated the same boy with smallpox material, the boy did not develop any disease—thus Jenner concluded that protection was now complete. He tried to publish his findings, and coined the term as Vaccination (from the word vacca—Latin for cow).

Ultimately Jenner's persistence made vaccination popular; he made no attempts to enrich himself through his discovery. Variolation was prohibited in England in 1840.

Jenner spent his scientific career either being ridiculed or rewarded for his discoveries. At home in his "Temple of Vaccinia" (a large one-room hut in the garden), he would vaccinate the poor for free. Jenner died in 1823 from a stroke, following his wife, daughter and son, whom all died from tuberculosis.

While Jenner's efforts in bringing vaccination to the attention of the public deserves a great deal of credit, one cannot forget Benjamin Jetsy, whom in 1744, determined to protect his family, used a cowpox infected lancet to transfer the material to his wife and two boys. They remained immune despite repeated exposure to smallpox.

The eradication of smallpox was accomplished in 1977, following a campaign under The World Health Organization.

Ultimately, it is important to gauge the accomplishments of Jenner, given the fact that the scientists of that era did not have a complete understanding of the human immune system, viruses or bacteria. Therefore, it is safe to say that curiosity, keen observation, and relentless perseverance—all such impressive human qualities, made the development of the first vaccine possible, long before the mechanisms involved in its effectiveness were understood.

In Gratitude:

As a not-for-profit organization, we rely on many to make our vision a reality. So many come together to provide our patients with a place of hope, health and happiness. Here are just a few we'd like to thank.

- All individuals and groups who have donated to our cause through financial support
- Hugo Galinido, MD, from Columbia; Harue Suzuki, MD, from Kyoto, Japan; and Christina Joy Mackie, Southwest College of Naturopathic Medicine, Tempe, AZ for continuing education through our Professional and Student Fellowship Programs
- Mary Kariuki and WSU Rhatigan Student Center Committee for room rental
- Our patients, co-learners, and staff who spread the good word about the clinic:

"It's a miracle…People can recover—I've seen it…We give a lot of the credit to Dr. Ron and the Riordan Clinic for curing [Pete's] aplastic anemia. He gets a blood work up every 6 months from the Riordan Clinic now, just to make sure his illness never comes back. I believe that without the Riordan Clinic, he would have had another bone marrow transplant and who knows what would have happened then. I also sent a friend, who also happens to have aplastic anemia, to Dr. Ron and so far, she hasn't had to have a bone marrow transplant and is doing well."

—Virginia, July 2013 (spouse of patient)

"Hello Doctors! Well, we brought our little Connor to see you on April 1st. He has increasingly gotten better. He started walking on his feet (instead of his heels) last week. We were just on a walk and I said to him, "So, Connor, you are on your feet, are your legs feeling better?" His response, "Yes! They are. All things are feeling better. I actually feel like a normal kid." We thanked God and now we want to thank you! With so much Gratitude, KG"

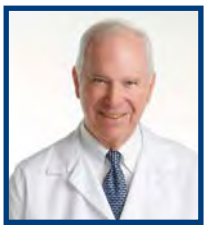
—sent to Dr. Ron and Dr. Anne, June 2013

Lunch & Lecture Series 2013

17 Correctable Causes of Chronic Illness

Presenters: Dr. Ron Hunninghake, Dr. Charles Hinshaw Jr., Dr. Jennifer Kaumeyer, Dr. Anne Zauderer


Ron Hunninghake, MD


Charles Hinshaw, MD


Jennifer Kaumeyer, ND


Anne Zauderer, DC

When: Thursday, September 12, 2013
12:00 p.m. to 1:00 p.m.

Cost: FREE—Lunch is included.

Do you suffer from chronic illness? Are you looking for answers? Join us as Dr. Ron presents an overview of this innovative approach to the 17 key elements to help you correct or avoid chronic illness.

Who can benefit from this lecture? EVERYONE…but especially those who suffer with chronic symptoms which may have been diagnosed, but for which no therapy has yet brought relief. Talk to our doctors about how to find the answers.

All of our Riordan Clinic doctors will be present and available to answer individual questions at the end of the lecture.

Reservations REQUIRED

Call **316-927-4723** or email us at **reservations@riordanclinic.org**

Lunch and Lectures: A Look Ahead...

Please note that our schedule has changed.

October 31, 2013 — Check Your Health: Review Your Laboratory Test Results with Riordan Clinic doctors. FREE. 12–1pm.

November 14, 2013 — Conquering the Super Bugs (and how ultraviolet light may play a role) with Dr. Jennifer Kaumeyer. $10. 12–1pm.

Call 316-927-4723 to reserve your spot for any of the above lectures or email reservations@riordanclinic.org.

Dates, topics and titles are subject to change.
Reservations required.