POSITION PAPER

BEYOND VACCINES
The End Of The Vaccination Era
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Preface

I know of few boys in my neighborhood or that I have come in contact with via friends or acquaintances at church or elsewhere who do not have developmental problems. The epidemic of boys with dyslexia, who have chronic skin problems, who exhibit oppositional behavior and learning handicaps is staggering. I’m a dad of one of these kids. His pediatrician, dermatologist, optometrist and family physician are clueless to the cause of my son’s physical and mental presentations. All of these skin signs and symptoms mean my son has a compromised immune system.

My son has had five skin conditions: impetigo, warts, moles, folliculitis and athlete’s foot. They are all related to a single mineral deficiency. His dermatologist wasn’t alarmed --- just a kid with five skin problems. Dermatologists must be having a field day with kids like this who have a prevalent mineral deficiency. I can tell you, dermatologists haven’t a clue what is going on here and if they do, they aren’t letting on, even though my son has had white moons at the base of his nail beds – an overt sign of zinc deficiency.

When asked to do something he opposes it (oppositional behavior). If rushed, it’s like he is overwhelmed. From an expert in the field, William Walsh PhD, I found a dominance of copper over zinc degrades dopamine, a brain chemical needed for memory.

My son also receives special tutoring due to his reading handicap (dyslexia). When I found that same mineral shortage was even linked to learning disability I had to wonder how many other kids are burdened with the same physical and mental challenges. Teachers act like they have never seen any of this before. Everybody is clueless to the cause of this Pandora box of signs and symptoms.

I’m not mindless in my refusal to have my son vaccinated. It’s obvious he has immune problems. He’s improved greatly since his parents learned of his need for zinc.
To the physicians, teachers and parents who haven’t a clue why these children present with developmental problems, this book is dedicated. You won’t know your kid is one of these mineral-deficient kids until he or she has undergone a few rounds of vaccinations. Then you suddenly find something is not right with your child and vaccination just made things worse.

Bill Sardi
Knowledge of Health, Inc.
CHAPTER 1
Introduction

Humanity is still mired in the cow pox and milk-maid era of infection control. In 1796 Dr. Edward Jenner was the first to report that milkmaids exposed to cow pox did not come down with smallpox.\(^1\) Modern medicine injects germs to activate antibodies instead of relying on crude physical contact as the milkmaids did. To make these ineffective vaccines work, heavy metals are added to provoke an immune response but pose a threat to vulnerable infant brains. Furthermore, newer synthetic or recombinant vaccines do not provide lasting immunity as whole-cell vaccines once did, which represents a step backwards. New knowledge from regenerative medicine is about to change all that.

Futurist Ray Kurzweil has said in his theory, The law of accelerating returns, that the accumulation of knowledge is growing at such an exponential pace 20,000 years of progress will be accomplished in just 100 years.\(^2\) Humanity can expect many of its unsolved challenges such, cancer, limited lifespans, even learning disabilities, to be overcome in the matter of a few years. This technology explosion will represent a profound rupture in the fabric of human history if implemented, says Kurzweil. Add control of infectious disease to the list.

The lifecycle of old technologies is about to end and probably would vanish like record players and pop-top cans except for the need to amortize old machinery or prolong old income streams.

What goes overlooked is that there is a natural inborn technology that can be tapped to produce more reliable immunity than vaccines. It makes vaccines work more effectively too. In fact, the remediable failure of this inborn mechanism to produce broad immunity against every potential pathogen is what causes vaccines to be ineffective and provokes interest in a simpler, more effective approach towards natural long-lasting immunity.
It is only lack of willpower and partisan longing to maintain the status quo that keeps humanity mired in old archaic technologies like vaccines.

**What is the vaccine industry hiding?**

There is so much being hidden from the public when it comes to vaccines. The problem with that statement is its believability. But what if a vaccine disaster of huge proportion was hidden from the public? What if that disaster killed thousands of Americans in enough numbers to drive down the life expectancy in the US? This actually happened.\(^3\)

The year was 1993. US life expectancy had been progressively rising for decades since the 1918 Spanish flu epidemic. But for the first time in eight decades, US life expectancy steeply declined for one year. Nearly 93,000 more deaths were reported in 1993 than the previous year. If you were living in the US in 1993 you probably don’t recall hearing of any such rise in the death rate. That is because the news media chose not to inform the public in league with public health authorities who knew their vaccine program would be destroyed by such a revelation.

**Not caused by a non-infectious disease**

The Monthly Vital Statistics Report said death rates for HIV infection (9.8%), COPD-chronic obstructive pulmonary disease (8.2%) and pneumonia/influenza (8.1%) rose steeply from 1992 to 1993. However, the ten leading causes of death didn’t change over that time period. The Centers for Disease Control said deaths due to heart disease, chronic obstructive pulmonary disease (COPD), HIV infection and pneumonia/influenza as well as diabetes made the largest contributions to the overall mortality increase. The causes of the increase in the death rate were spread among various diseases by the Centers for Disease Control (CDC), far too broad to explain any single cause. Not a word was said about this startling setback in life expectancy.
But that same government document said some of these increases in chronic disease (diabetes, heart disease, COPD) were “the result of the two influenza epidemics of 1993.”

1993: Two flu epidemics that year

What two flu epidemics is the report referring to?

A CDC review of mortality patterns in 1993 also states “the decline in life expectancy likely reflects increases in death rates for chronic disease.”
during the two influenza outbreaks of 1993.” There it is again, confirmation that two flu epidemics in the same year caused an increase in deaths with an admission it resulted in a decline in the life expectancy of Americans.

**Timeline of historical flu outbreaks**

Americans may be roughly familiar with the historical timeline of flu outbreaks provided in the chart below. The chart has been adapted to show the severity of each influenza outbreak and also the SARS coronavirus pandemic of 2003. I have added the 1993 flu outbreak to the chart.

Note that the 1993 flu outbreak which resulted in nearly 93,000 more deaths than the prior year resulted in more deaths than the well-known Asian and Hong Kong flu pandemics and would be second only to the Spanish Flu pandemic of 1918 in comparable deaths. The Spanish flu had temporarily set back US life expectancy gains from 50.9 years to 39.1 years. Of course, this was the pre-antibiotic era. There were no antibacterial or antiviral drugs then.

As an aside, the 1928 Spanish flu did not cause all those millions of deaths. What actually occurred was aspirin was marketed on a worldwide basis for the first time in that year without instruction in
regard to dosage. Indiscriminate use of aspirin, a vitamin C depleting substance, killed millions.\textsuperscript{6,7} Since then the deadly aspirin side effect became known as Reye's syndrome and aspirin is no longer recommended to children to quell a fever.\textsuperscript{8,9} It is odd that no flu epidemic of such proportion has been reported since then.

To return to the 93,000 excess deaths in 1993, according to charts provided by the CDC and other health organizations, it’s as if there was no flu epidemic in the US in 1993. I had to dig deep into the health reports of that year to find further confirmation that it was the flu, and no other disease, that caused the American life expectancy to steeply decline for one year.

Data showed only 3,430 more deaths among HIV-infected residents then the prior year.\textsuperscript{10} Another study showed only 254 excess flu deaths among person with HIV for 1992-93 and only 191 the following year.\textsuperscript{11} So HIV-infected persons, through at higher risk for death from the flu, cannot explain the unusual number of deaths attributed to influenza in 1993.

It’s also possible that flu vaccination rates declined in that year, but a search on Google found evidence to the contrary. Vaccination rates were rising while the flu outbreak of 1993 proceeded. (See chart below)

**It struck elderly nursing home residents. But why?**

So I began to re-read a government document I had flagged with a red paperclip during my investigation. A flu surveillance report published by the CDC states that the “1992-93 influenza season was dominated by influenza B, but increasing circulation of influenza A (H3N2) viruses toward the end of the season” which struck nursing home populations with deadly consequences.\textsuperscript{12} For reference: type A flu viruses are the most virulent and most common. Type B are less common but almost exclusively strike humans.
The report went on to say that influenza B viruses predominated early in the season and were mainly limited to school-age children, and “no excess mortality was observed.” Then sustained excess mortality began in mid-March of 1993 and coincided with outbreaks in nursing homes.

Like the more recent swine flu outbreak, which began in Mexico, the second flu bout in 1993 began late in the season.

For comparison, the Mexico swine flu virus began in March or April of 2009 whereas the second 1993 flu outbreak began in March and peaked even later in August and September. The pathogenic virus involved in 1993 was identified as Type A H3N2 A/Beijing/32/92 strain.\(^\text{13}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>US Life Expectancy Years at birth</th>
<th>Deaths</th>
<th>Increase in deaths from prior year</th>
<th>Flu vaccine coverage %</th>
<th>Dominant flu type (subtype)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>76.7</td>
<td>2,337,256</td>
<td>-23,011</td>
<td>63%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1997</td>
<td>76.5</td>
<td>2,314,246</td>
<td>-446</td>
<td>63%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1996</td>
<td>76.1</td>
<td>2,314,690</td>
<td>-2568</td>
<td>63%</td>
<td>A (H1N1)</td>
</tr>
<tr>
<td>1995</td>
<td>75.8</td>
<td>2,312,132</td>
<td>-33,138</td>
<td>62%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1994</td>
<td>76.7</td>
<td>2,278,994</td>
<td>-10,441</td>
<td>58%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1993</td>
<td>75.5</td>
<td>2,268,533</td>
<td>+92,940</td>
<td>55%</td>
<td>A (H1N1)</td>
</tr>
<tr>
<td>1992</td>
<td>75.8</td>
<td>2,175,613</td>
<td>+6,095</td>
<td>52%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1991</td>
<td>75.5</td>
<td>2,169,518</td>
<td>+21,055</td>
<td>48%</td>
<td>A (H1N1)</td>
</tr>
<tr>
<td>1990</td>
<td>75.4</td>
<td>2,148,463</td>
<td>-2,003</td>
<td>42%</td>
<td>A (H3N2)</td>
</tr>
<tr>
<td>1989</td>
<td>75.1</td>
<td>2,150,466</td>
<td>-17,533</td>
<td>37%</td>
<td>A (H1N1)</td>
</tr>
<tr>
<td>1988</td>
<td>74.9</td>
<td>2,157,999</td>
<td>+44,676</td>
<td>31%</td>
<td>A (H2N2)</td>
</tr>
<tr>
<td>1987</td>
<td>74.9</td>
<td>2,123,323</td>
<td>--</td>
<td>28%</td>
<td>A (H1N1)</td>
</tr>
</tbody>
</table>
Still, why would the government hide such an epidemic, particularly the second one in 1993? I had no clue.

**Free flu shots begin in 1993**

I had uncovered much of this information two years prior. But the reason for the cover-up remained elusive until I read a Health & Human Services press release issued in 1999. It said that Medicare coverage for flu shots for the elderly began in 1993 as the Administration launched an effort to increase immunization rates among older adults. The shots were free for those enrolled in Medicare Part B.  

The big difference from prior years was that elderly Americans were getting free flu shots.

According to *The Vaccine Guide* (North Atlantic Books, 2002), during the 1992-1993 season, 84 percent of samples for the predominant type A virus in circulation in the US population were not similar to the virus in the vaccine. The flu vaccine that year would be largely worthless. But that wouldn’t explain such a huge increase in deaths, particularly in nursing home populations that apparently hadn’t received flu shots in prior years due to lack of provisional funding.

There was a very slight increase in the risk for Guillain-Barré syndrome in the period 1992 to 1994 from flu shots (one additional case per million persons vaccinated). This would still not be sufficient to produce a setback in life expectancy.

**A death vaccine?**

Now the big question comes to mind. Was the flu vaccine in 1993 lethal in some way? This could be the only explanation as to why this deadly flu outbreak has been hidden from the public. If so, it would be a severe blow to the nation’s flu vaccination program.
There is a hint of evidence in Europe that either a deadly flu virus or a “death vaccine” was in circulation that year. Dutch National Influenza Centrum reported that nursing home residents in 1993 experienced a severe outbreak of the flu that struck 49% of them and caused 10% to die. That’s a death rate four times greater than the 1918 Spanish flu pandemic. The cause of the deaths was attributed to the Type A H3N2 flu viral strain. The title of the report was: “Influenza epidemic in a nursing home caused by a virus not included in the vaccine.”

Could there have been some deadly vaccine in use in the US in 1993? So-called “hot” lots of vaccines are not a matter of public record. Flu vaccines inject a “little bit of disease” to provoke the production of antibodies and produce long-term resistance to a particular strain of the flu. Nursing home patients are often frail and immune compromised. Every flu vaccine is a new invention, produced well in advance of the next flu season and usually comprise a sinister combination of three viral strains that virologists believe will be in circulation during the upcoming flu season. The three viral strains in these trivalent vaccines could have been deadly to frail elderly patients.

It is often stated that flu vaccines are “dead” or “attenuated” viruses. In fact, viruses are not alive, they are proteins and genetic material that require a host cell for replication. Virulent flu viruses are “grown” in mammalian eggs until less virulent strains are produced, which are then used in vaccines.

In the process of making a vaccine in this manner, a hidden virus may be introduced, such as the simian 40 virus that was mistakenly introduced in the polio vaccine some years ago. New methods of making vaccines would eliminate this problem. But was a deadly combination of viruses hidden in the flu vaccine used in 1993? Certainly no flu vaccine manufacturer would admit to that.

Apparently 90,000+ elderly Americans met their early deaths due to a free flu shot administered in nursing homes that year. The number of
deaths resulted in the US Life Expectancy declining for the first time in eight decades, a fact that was covered up by federal health authorities and a negligent news press. If you can hide something this big, what else is the vaccine industry hiding?
CHAPTER 2:

Political control and mandated vaccination

The drawbacks of modern vaccinology are many and include reliance upon fascist control of medicine where government, bought off by vaccine makers, forces the public by law or entrance requirements (school, military, etc.) to undergo mass vaccination. That eliminates marketing costs and then the vaccine makers are removed from liability while hiding public harm and shunning safer and more reliable alternatives, to be described herein.\textsuperscript{17}

Physicians step away from their role as guardians of public health

The traditional role of physicians as final guardians of public health has been compromised by self-interest. Despite the fact doctors only make a marginal profit or even a small loss administering vaccines from their offices, vaccines represent an indirect cash cow for pediatricians. Mandated childhood vaccination maintains a steady flow of patients. Pediatricians have circled the wagons to protect their income stream rather than place public safety first. Because pediatricians are trained to offer vaccination as the sole strategy to avert childhood infectious diseases other more efficacious and safe approaches are ignored.

Physicians who dare step out of the line

Furthermore, vaccination is the standard of care and physicians can’t vary from that or face expulsion from a state medical board.

The case of Dr. Robert Sears in California comes to mind. The Los Angeles Times\textsuperscript{18} published the story. Dr. Sears was threatened with loss his medical license for a note given to the parents of a 2-year-old boy that he should not undergo more routine vaccines for the duration of his childhood.
The first line of defense: public hygiene

The first line of defense against infectious disease is public hygiene, which affects a broader number of people and prevents infectious disease from occurring in the first place. In fact, deaths from infectious disease declined in many instances before vaccines were introduced due to public health measures.¹⁹

Efforts to provide clean water via disinfection of tap water with trace amounts of chlorine and dispose of human waste in sewers and eliminate contaminants such as rodent droppings in stored foods are examples. That is precisely what eradicated typhoid fever, not vaccines.²⁰ The same goes for cholera and dysentery.

Diseases like polio, which are enteric viruses spread by human waste, are easily controlled and even eradicated in underdeveloped countries by building homes with wood or concrete floors (rather than dirt floors where human sewage can enter) and then linking toilets to sewage pipes.

The second line of defense: human immune response

The second line of defense against infectious disease in the human immune system is individually determined, largely by nutrient intake. It is an often-ignored topic in the control of infectious disease.

Nutrient fortification of food such as the recent suggestion to add vitamin D to bread to prevent the common cold is a population approach to priming the human immune system.²¹ Beyond that, the individual diet and dietary supplements would further arm the immune system.

The problem of overvaccination

Pro-vaccine advocates are quick to note the convincing data that shows the overwhelming effect vaccines have in quelling symptomatic cases, reducing morbidity (fevers, rashes, etc.) and in demonstrably
vanquishing deaths from infectious disease. There is no question that vaccines save lives and prevent many of the horrid symptoms of infectious disease which sometimes requires hospitalization. What goes unsaid is that most unvaccinated healthy subjects at any age will be exposed to infectious diseases and develop antibodies against them without exhibiting symptoms. These are called asymptomatic individuals. They can be exposed to infectious carriers who have not been vaccinated or even those who have been vaccinated. Transmission of infectious disease by vaccinated subjects is a sore point for pro-vaccine advocates.

PERCENT OF CHILDREN 19-35 MONTHS OLD RECEIVING VACCINATIONS FOR:  
(2013 data)

- **Diptheria, tetanus, pertussis-whooping cough** (4+ doses): 84.2%
- **Polio** (3+ doses): 93.3%
- **Measles, mumps, rubella** - MMR (1+ dose) 91.5%
- **Haemophilus influenza type B** (primary series + booster: 82%
- **Hepatitis B** (3+ doses): 91.6%
- **Chicken pox** (Varicella) (1+ doses): 91.0%
- **Pneumococcal conjugate vaccine** (4+ doses): 82.9%
- **Combined 7-vaccine series**: 71.6%

Source: Centers for Disease Control, National Center For Health Statistics, July 16, 2016

Every once in a while a public debate erupts between parents who object to unvaccinated children being permitted to attend school and expose vaccinated children to infectious disease. Since vaccination rates are high among school children in the US, infectious disease transmission often occurs from vaccinated carriers who are asymptomatic, that is, they are silent transmitters of disease. This results in anti-vaxxers issuing reports that vaccines don’t work!
The shocking report, published in *Emerging Infectious Diseases*, (February, 2016) reveals 26 vaccinated preschoolers developed pertussis (whooping cough)-like symptoms. All children had received 3-4 doses of pertussis vaccine according to schedule. The effectiveness of the vaccine was reported to only be 45%, with almost half the school children developing symptoms.\(^\text{22}\)

In another published study, only 23% of individuals who “caught” the flu actually developed symptoms. The remaining subjects developed antibodies and were asymptomatic. About 18% of unvaccinated subjects were infected but most (77%) showed no symptoms and only 17% with confirmed influenza visited a doctor. This means the extent of infection is far greater than estimated if only counting symptomatic cases.\(^\text{23,24}\)

In an adult population that was carefully analyzed to confirm antibody response, five times as many unvaccinated subjects who developed antibodies to pertussis (whooping cough) were without symptoms than those who developed symptoms. The incidence of symptomatic pertussis in persons aged 15-65 years of age is 370-450 cases per 100,000 persons per year. Unimmunized subjects are found to have an annual infection rate of ~1% (range 0.4 to 2.7%) versus a half of 1% (0.0045) for vaccinated subjects. Investigators concluded that “there are ~5 asymptomatic or clinically insignificant infected subjects for every classic case of clinical pertussis.”\(^\text{25}\)

It can be concluded that vastly large groups of unvaccinated people are exposed to infectious disease and develop antibodies on their own without developing symptoms. It is this population that public health authorities need to expand upon. The healthy masses don’t appear to need vaccines.

In many instances, a massive vaccine campaign is mounted to prevent 1 or 2 deaths among 100,000 people. In other words, if prevention of mortality is the measure of vaccine effectiveness, 100,000 unhealthy
people have to be vaccinated to prevent 1 or 2 deaths. However, when asymptomatic healthy subjects are added, the only remaining conclusion is that modern medicine over-vaccinates the masses. Modern medicine narrowly investigates the ill, not the healthy.

The primary thrust of this report is to delve into the reasons why many people have healthy immune systems, develop antibodies on their own without vaccines, and therefore essentially don’t need vaccines. This report also explains why vaccines are often ineffective.
# OVER-VACCINATION: DATA THAT YOU NEVER SEE

The data presented in this chart shows vaccines overwhelmingly prevent symptomatic infectious disease and death. However, most unvaccinated healthy individuals develop antibodies on their own without vaccination and are asymptomatic.

*Primary source: Roush S, Murphy TV, Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States. Journal American Medical Association, 2007.*

<table>
<thead>
<tr>
<th>INFECTIOUS DISEASE</th>
<th># INFECTED WHO ARE ASYMPTOMATIC*</th>
<th>PRE-VACCINATION CASES</th>
<th>POST-VACCINATION CASES</th>
<th>ANNUAL PRE-VACCINATION DEATHS</th>
<th>ANNUAL POST-VACCINATION DEATHS</th>
<th>PRE VACCINATION DEATHS / DEATH RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poliomyelitis</td>
<td>72% asymptomatic 24% minor illness 1-5% stiffness Paralysis 1 in 200 to 1 in 1000</td>
<td>19,794 (acute) 16,316 (paralytic)</td>
<td>0 (100% effective) 0 (100% effective)</td>
<td>1393 (acute) 1879 (paralytic)</td>
<td>0 0</td>
<td>Less than 2 per 100,000 in most pre-vaccine years</td>
</tr>
<tr>
<td>Measles</td>
<td>Almost all show symptoms</td>
<td>530,162</td>
<td>55 (99.9% effective)</td>
<td>440</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Chicken pox (Variella)</td>
<td>5 in 100</td>
<td>4,085,120</td>
<td>612,768 (85% effective)</td>
<td>105</td>
<td>19</td>
<td>1 in 100,000</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>50%</td>
<td>66,232</td>
<td>13,169 (80% effective)</td>
<td>237</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Whooping cough Pertussis</td>
<td>Most asymptomatic Adults: for every 1 symptomatic case there are 5 asymptomatic cases*</td>
<td>200,752</td>
<td>15,632 (92% effective)</td>
<td>4034</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>
The Centers for Disease Control says:

- Nearly everyone in the U.S. got measles before there was a vaccine,
and hundreds died from it each year. Today, most doctors have never seen a case of measles.

- More than 15,000 Americans died from diphtheria in 1921, before there was a vaccine. Only one case of diphtheria has been reported to CDC since 2004.
- An epidemic of rubella (German measles) in 1964-65 infected 12½ million Americans, killed 2,000 babies, and caused 11,000 miscarriages. In 2012, 9 cases of rubella were reported to CDC. 26

Many healthy children and adults experience mild or no symptoms when exposed to most pathogens, a fact that goes ignored. Yes, yes, vaccines save lives among subjects with acute disease. But the idea is to reduce the number who even experience symptoms.

These infectious diseases are not killers unless the immune system is compromised. Yes, there may be morbidity, pain, hospitalization, etc. But again, among those with healthy immune systems (defined here as a thymus gland that is producing naïve T-cells that are ready to combat -- make antibodies-- against any new biological threat), symptoms will be minor. Many are oblivious to the fact they are infected by a bacterium or virus and naturally produce antibodies without fever, rash or other symptoms.

Most cases of acute chickenpox (varicella) are mild and self-limiting. Vaccination has knocked down hospitalization rates for chickenpox dramatically but pre-vaccination era death rate was only one per hundred thousand. Young children who were immune-compromised accounted for most deaths. 27 So essentially modern medicine over-vaccinates to protect the lives of a few and the ordeal of a fever, diarrhea etc. in others.

A study conducted in Europe found 38.1% of children with rotavirus infection did not experience diarrhea and were asymptomatic. Asymptomatic carriers who could transfer rotavirus to others were 14.5% of infants up to 6 months of age and 65.8% among age 6 years and over. 28
So universal vaccination would halt the silent transfer of infectious disease, but only if sufficient antibodies are produced. That would again presume an unvaccinated individual would experience symptoms. But if all were asymptomatic, the idea of using vaccines would be moot.

Somewhere between 1 in 200 to 1 in 1000 individuals who are infected with the poliovirus develop paralysis. Vaccinated individuals may still be infected and transfer the disease to others even though they do not experience paralytic symptoms, resulting in silent disease circulation. The same goes for whooping cough (pertussis) as most who are infected with the pertussis bacterium never know they were infected. But again, a rationale for universal pertussis vaccination is that asymptomatic carriers can infect others. The problem is that the newer acellular pertussis vaccine also appears to avert symptoms but not transmission of the disease to others, a major step backwards.

Hepatitis B, for which vaccination is required at birth, is asymptomatic in about 50% of adults with acute infection. A new subclass of infectious disease is being created: previously vaccinated individuals who develop asymptomatic infections but can infect others. This has also been noted for measles.

While vigilant parents picket and demonstrate against unvaccinated children being admitted to their children’s schools, their vaccinated children should be completely immune from transmission of the disease. These public demonstrations against the unvaccinated should be redirected to the failings of modern vaccines to halt transmission while only allaying symptoms. If only the public knew.

21st century medicine has become over-reliant upon vaccines to provoke antibody production via intentional inoculation with bacteria or viruses (antigens) in an effort to produce lasting (memory) immunity (antibodies). Successful vaccination largely relies upon a healthy immune response by naïve memory T-cells (thymus cells) that have not made antibodies against any antigen. These naïve T-cells generate
antibodies against new biological threats to hopefully provide life-long immunity.  

The lynchpin for vaccination is that it presumes a functional immune system. Vaccine makers tacitly admit vaccines don’t reliably activate antibodies by virtue of the fact they must universally add toxic adjuvants such as heavy metals aluminum or mercury (thimerosal) to provoke antibody production. 

**Why synthetic vaccines don’t provide lasting immunity**

It was the Greek historian Thucydides (circa ~450 BC) who in noting the catastrophic effect of the plague during the Peloponnesian War made the prescient observation that the “same man was never attacked twice.” This may be the first historical description of the remarkable ability of the immune system to protect human from infectious disease over a lifetime. However, lifelong immunity from infectious disease vanished with the use of synthetic vaccines.

An unmentioned problem is that recombinant and synthetic antigens used in modern day vaccines are “far less immunogenic than older style live or killed whole organism vaccine” thus creating the need for more powerful adjuvants in vaccines.

Alum (aluminum) is an adjuvant that is almost universally approved for use in vaccines that induces a good antibody response in fluids (humoral immunity) but not a cellular response against incoming pathogens said a report published in Immunology and Cell Biology (2004).

Take whooping cough (pertussis) vaccination for example. This vaccine was developed in 1914, before foods were fortified with nutrients, before passage of the Pure Food & Drug Act and before chlorine was universally used to prevent waterborne disease. In other words, when children would be more subject to infectious disease. The whole-cell pertussis vaccine was about 80% effective in preventing serious disease.
and death from whooping cough. However, that vaccine only offered protection 5-10 years after the last dose.

Later in this last century an acellular vaccine was introduced and largely replaced the whole-cell vaccine. Ten years later it became apparent there is a lack of long-term protection and whooping cough has increased since the 1980s.37

Today children may be better off generating their own antibodies to measles, mumps, rubella, pertussis (whooping cough), diphtheria, pneumonia and influenza in order to achieve lasting immunity.

What’s the difference between developing antibodies naturally, one at a time as children are exposed to potentially pathogenic germs, versus intentionally injecting 5 germs or synthetic antigens into a child at one time? The difference is one generates income, the other doesn’t.

Why should the natural process of antibody induction be commercialized? There are so many pathogens or strains of viruses that vaccines cannot possibly protect against.

For example, more than 60 types of different enteroviruses have been identified. Polio is the only enterovirus for which there is a vaccine.38 There are no vaccines for non-polio enteroviruses.39

Gardasil, the vaccine for the sexually transmitted human papilloma virus, prevents infection for only two strains of this pathogen. There are about 40 different strains that can infect skin and mucous membranes. Gardasil only protects against four viral strains (6, 11, 16, 18).40

Gardasil, approved for use among young women in 2008 to prevent rare cervical and other cancers many decades later in life, hasn’t saved one life yet.

At the same time the majority of cases of vaccine-induced autoimmune reactions involve Gardasil.41
A vaccine for each and every biological threat is not practical. Vaccines are solely relied upon to the exclusion of nutritional regimens that would universally address every strain of every bacterium or virus.

A vaccine for each and every biological threat is absurd

There are 81 licensed vaccines in the U.S. that prevent ~26 different diseases.\textsuperscript{42} There are 271 experimental vaccines reportedly under development. A vaccine for each and every biological threat is not practical. Vaccines are solely relied upon to the exclusion of nutritional regimens that would universally address every strain of every bacterium or virus.

What is called immunonutrition has largely been confined to hospitalized patients and those with severe disease. Immunonutrition, a concept conceived over a half century ago, needs to be applied universally as a priority over vaccination. Furthermore, immunonutrition needs to be intelligently applied in utero and early in life when the immune system is being epigenetically programmed.\textsuperscript{43}

According to the Centers for Disease control an infant in the first 15 months of life should undergo vaccination for 15 different infectious diseases requiring 26 different needle jabs.\textsuperscript{44} These jabs are all before the child has developed an intact blood-brain barrier and before a full immune response can be fashioned.
Enteroviruses covertly confused with cases of the flu

Many cases of the flu tabulated by public health authorities appear to be enteroviral infections that produce similar symptoms. Enterovirus cases are thrown in with cases of influenza to artificially inflate reported cases of the flu to urge public vaccination. Public health authorities are disingenuous about this.

In 2005 the British Medical Journal published a report by Peter Doshi that ran counter to the CDCs annual flu season claim that “36,000 people die every year from the flu.” Deaths caused by the flu are combined with deaths from pneumonia, largely occurring among older adults, to inflate the threat posed by the flu.

Of 62,034 flu/pneumonia deaths in 2001, 61,777 were attributable to pneumonia and 257 to the flu, but in only 18 cases was the flu positively confirmed.

Investigative journalist Jon Rapoport has done a good job of exposing this statistical manipulation to create undue fear that urges the public to get vaccinated. You could die, you know!

There is intrigue in the pursuit of infectious disease outbreaks. There is obvious mixing of cases of enterovirus that is spread by feces with cases of the flu. Rapoport notes that an alleged 2009 flu outbreak emanating from Perote, Mexico was precisely where a pig farm of 950,000 hogs is located. Pig feces lagoons are found throughout the farm that generates
as much feces as the entire city of New York. The CDC sent investigators who conjured up a newly mutated strain of the flu as the cause for the deaths. It was a fake epidemic, as Rapoport duly noted.\textsuperscript{47}

According to the Enterovirus Foundation, 50-80\% of symptoms caused by enteroviruses are completely asymptomatic, some cause mild overnight symptoms and are self-limiting. But in some cases they can be deadly. Enteroviruses are common during infancy and the majority of infants are said to experience at least one enteroviral infection in the first year of life. Hand washing is the only measure recommended to limit enteroviral infections.\textsuperscript{48}

Persons with no symptoms of illness who are infected with an enterovirus can infect other persons who may or may not become ill after they become infected. Obviously the state of the immune system is paramount in determining whether enteroviruses produce symptoms or threaten life. Only the symptoms (fever, diarrhea, etc.) are treated, not the underlying weak immune system that vulnerable individuals may have.

In the past several years an outbreak of enterovirus-68 has affected hundreds of children throughout North America. Enterovirus-68 is reported to have caused polio-like paralysis in children.\textsuperscript{49}

But how is enterovirus-68 being spread over such a wide geographical area? The only imagined vector is food.

But how is enterovirus-68 being spread over such a wide geographical area? The only imagined vector is food. In 1966 a Food & Drug
Administration investigator reported that enteroviruses can reside in frozen foods and even survive when stored at room temperature.\textsuperscript{50}

Could the outbreak of paralysis associated with widespread enterovirus infection be related to foodborne infection? Foodborne enteroviral infections are widely cited in the medical literature. The CDC isn’t saying.

Are public health authorities covering for commercial food suppliers? The CDC is at least remiss in not investigating food sources of this outbreak. And where are the brain-dead news reporters who are supposed to be tracking down stories like these?

What we find today is that all levels of society from government to news outlets are bought off. Billionaires now own many news agencies. Billionaires now own part or all of several influential national newspapers, including The Washington Post, The Wall Street Journal and The New York Times. Other wealthy people own cable TV networks.\textsuperscript{51} Obviously public health agencies are playing footsie with the food industry.

**Whooping cough vaccine: one step forward, two steps back**

The failures of the current overvaccination paradigm to address infectious disease is exemplified in the whooping cough vaccine.

The reported incidence of whooping cough (pertussis) is 8.5 cases per 100,000 persons in the overall population. In infants the incidence is 88.7 per 100,000. Many infected patients are asymptomatic. The patient’s body temperature is often normal. Infants younger than 12 months of age only have partial immunity because they have not yet completed their vaccine series. Whole-cell pertussis vaccine in combination with diphtheria and tetanus toxoids was introduced in 1948.\textsuperscript{11,30}
Think About It:
Whooping Cough Vaccine May Make You An "Asymptomatic Carrier";
Therefore, Promotion Of Vaccination Against Whooping Cough Could Actually Trigger An Outbreak

After studies raised concerns about a relation between pertussis-containing vaccines and neurologic illnesses, including encephalopathy, infantile spasms, and sudden infant death syndrome, acellular pertussis vaccines were developed.

Acellular pertussis vaccines include representative antigens of pathologic toxins seen in *Bordetella pertussis* strains. It does not protect against other species of this bacteria that may cause whooping cough (*Bordetella parapertussis* and *Bordetella bronchiseptica*).52

Whooping cough is not completely eradicated by vaccination. Recent large outbreaks have occurred in developed countries in recent years.

How did we arrive at this situation? In the 1980s, there was much pressure to replace the side-effect generating diphtheria, tetanus, and whole-cell pertussis (DTwP) vaccine with a more safe endotoxin-free vaccine.

Yet many increased problems are believed to be caused by replacing the old vaccine with the acellular pertussis vaccines. Out of the frying pan and into the fire. Vaccination with the whole cell vaccine was
preventing symptoms but not re-infection. But now in an era of acellular pertussis vaccine, there is admission of incomplete control of pertussis.

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One could argue that giving more boosters to all age groups would resolve the problem. This might not be realistic.

– Jussi Mertsola, Turku University, Finland

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Jussi Mertsola of the Department of Pediatrics, Turku University, Finland, writes:

“A study in a non-human primate pertussis challenge model indicated that acellular pertussis vaccines protect against disease but are ineffective in preventing infection and transmission to other animals.”

It is well known that not even pertussis disease will induce lifelong immunity, and the same is true with the whole-cell vaccines. The waning of immunity in the population might be, however, faster after the introduction of the acellular vaccines.

One could argue that giving more boosters to all age groups would resolve the problem. This might not be realistic.”

Recently Stanley Plotkin, a noted vaccinologist, says modern medicine cannot allow a vaccine-preventable disease like pertussis to be incompletely controlled. He urges for new pertussis vaccines.

The current vaccines, even with their severe limitations, are deemed to be protective and to reduce the severity of pertussis.
The current strategy to prevent the most severe cases of whooping cough is acellular vaccination of pregnant women in the last trimester to provide the newborn with passive protection. However, immunization against pertussis prior to the 3rd trimester (even prior to conception) may not produce sufficient antibodies.

A new less problematic pertussis vaccine is needed, but it sounds like it won't materialize any time soon.

Plotkin writes:

“To change the vaccine given to infants in the first 2 years of life is a daunting proposition, both because the requirements for safety data would be large and because the pertussis is often part of combinations with many other valences, thus requiring recertification of many products currently on the market. At a time when pertussis vaccination is recommended throughout the world, it is ethically impermissible to do an efficacy study in infants with an unvaccinated control group. Moreover, the data from outbreaks show reasonable levels of protection through age 6, with the problem coming later in life. Therefore, the focus should be on the booster vaccines given to pre-school age children and in adolescents. But these boosters would be expensive take a long time to develop.”

Jussi Mertsola of Turku University Hospital in Finland writes: “We also do not know much about the intracellular living of the bacteria and possible transition between the virulent and non-virulent phenotypes in the mucosal environment in the lungs... In pertussis, the function of Thymus1 and Thymus17 cells seems to be very important.”

Plotkin notes that studies in mice and in baboons have demonstrated that whole-cell vaccines induce both Thymus1 and Thymus2 responses (and possibly Thymus17 responses as well), whereas acellular vaccines
induce only Thymus2 cells. This is a severe limitation on the pertussis vaccine.

Indeed, researchers examined the immune response among vaccinated and unvaccinated individuals for the flu and found substantially different humoral and cellular immune responses occurred among individuals exposed to a vaccine-delivered virus versus natural exposure and infection. Silent flu infections without symptoms were frequent.57

Plotkin charts all of the possible strategies to overcome the incomplete immunity provided by the pertussis vaccine but fails to address the T-cell issue he himself highlights.

To solve the problem posed by the new acellular pertussis vaccine, which is less effective than the wholecell vaccines it replaced, it has been suggested more powerful adjuvants be used.58

But this will likely increase morbid effects of vaccination.
CHAPTER 3

Immunonutrition: the failings of modern medicine

It becomes clear. Modern medicine adopts strategies towards more doctoring, more medicines and more disease to treat. Self-care and prevention are shunned. Without the threat of death to evoke fear, the marketing of vaccines to the public falls flat.

Without the threat of death to evoke fear, the marketing of vaccines to the public falls flat.

If it is revealed only 18 people die of the flu in a year, and most of those were hospitalized and immune compromised, how many flu shots would be sold each year?

Marketing of vaccines relies on deaths, or at least imagined deaths. To produce real deaths, the immune system must be left in a compromised state. This is the purported state of affairs today. Modern medicine ignores immunonutrition that creates a scenario that requires more and more doctoring, vaccines and treatment.

A lesson in immunonutrition

A lesson in immunonutrition comes from John Cannell MD, founder of the Vitamin D Council.

Cannell says we should ask if influenza should be considered a vaccine deficiency the way it is addressed by public health authorities today. Writing in the Virology Journal, Dr. Cannell quotes Edgar Hope-Simpson who asked these questions about influenza:
1. Why is the flu both seasonal and ubiquitous and where is the virus between epidemics?
2. Why are flu epidemics so explosive?
3. Why do flu epidemics end so abruptly?
4. What explains the frequent coincidental timing of epidemics in countries of similar latitudes?
5. Why is the serial interval (the time between successive cases in a chain of transmission) obscure?
6. Why is the secondary attack rate so low?
7. Why did epidemics in previous ages spread so rapidly despite the lack of modern transport?

Dr. Cannell adds an eighth conundrum: the surprising percentage of volunteers without detectable virus in their blood serum who either escape infection or develop only minor illness after being experimentally inoculated with a novel influenza virus?

For instance, nasal instillation of flu viruses only results in symptoms 60% of the time.

Dr. Cannell goes on to present a ninth conundrum -- contrary to controlled trials which show vaccines to be effective -- flu mortality and hospitalization rates rose during the same time that flu vaccination rates for elderly Americans rose dramatically. Indeed death rates for the most immunized groups did not decline.

Dr. Cannell underscores various assumptions that are made concerning the flu. He challenges the “generally accepted” notion that influenza is highly infectious and repeatedly transmitted from the sick to the well. Not everyone living in a confined space will come down with the flu when one individual does.

Another revealing question is why did the peak of 25 consecutive flu epidemics in France and the USA occur within four days of each other?
That seasonal colds and the flu are prevalent in winter months goes unexplained by modern medicine. Dr. Cannell postulates along with other experts that it is the lack of vitamin D in cloud-covered winter months when the earth is tilted away from the sun on its axis, that colds and flu run rampant in human populations. Vitamin D activates the adaptive immune system and also increases white blood cells called neutrophils that are the first responders to pathogens.

When supplemental vitamin D is given to African-American women they are 3 times less likely to report a cold or the flu. That can’t be said for the flu vaccine. In fact, most people I know who decide to be vaccinated for the flu come down with symptoms of infection.

Vitamin D has now been found to be an “antibiotic vitamin” by virtue of its ability to generate germ-killing cathelicidins in the body.

So why all the emphasis to get vaccinated for the flu at drug stores these days when vitamin D pills should be promoted during the flu season?

Dr. Cannell says oral vitamin D3 in inexpensive 2000-7000 international unit doses/day should maintain adequate vitamin D blood levels during winter months.60

More pertinent to this report, only recently have researchers reported that vitamin D was demonstrated to be essential for in the maintenance of thymus hormone (thymosin β4) whereas zinc was not a factor.61

While malnutrition is no longer the main cause of a weak immunity we now live in an era of high calorie malnutrition, which can result in widespread compromised immunity. Diabetics are known to have weak immune systems.

The primary groups at risk for infectious disease now are the very young (neonates, infants under age 2) and the very old who respectively have undeveloped or exhausted immune systems. The inability to respond and process foreign antigens (germs) characterizes these two groups. A weak immune system, not a lack of vaccination, is the
problem. In fact, vaccines won’t be effective (won’t produce adequate antibodies) in an immune compromised individual. Provision of basic nutrients in these age groups has been proposed to reduce the numbers of individuals vulnerable to life-threatening infections. Of special note, over 65% of the immune cells in the body reside in the gut, outside the direct reach of vaccines.62

**Immunonutrition and vaccines**

Since vaccines are being administered to newborns and mothers during pregnancy, the topic of human immunity during pregnancy, birth and thereafter needs to be addressed. This will provide readers with insight on how to conquer or prevent infections on their own.

**The thymus gland and T-cell immunity**

Vaccines rely on the memory immunity in order to produce long-lasting immunity (antibodies) against potentially pathogenic bacteria and viruses (antigens).

This internal antibody-generating system goes ignored. Subpar antibody production is what makes vaccines fail.

Harold Buttram MD explains the basics of the human immune system in relation to vaccines.63 Dr. Buttram writes:

The human newborn comes into the world with residual antibodies from the maternal blood stream which, in the absence of breast feeding, would provide overall immunological protection for about six months, and for measles up to 12 months.”

Dr. Buttram asks: “For those who do choose or are mandated to vaccinate, why not vaccine at five or six months of age rather than compromise and endanger a system already in place? Otherwise the newborn immune system is largely rudimentary, requiring a series of microbe challenges (vaccination) to become fully functional, a process requiring 2 or 3 years. Without the natural challenges the immune
system remains relatively weak. “ In Dr. Buttram’s view, for healthy infants, exposure to pathogens during youth arms against future infections.

Dr. Buttram explains that immunity occurs in both the body’s fluids (humoral immunity) and at the cellular level. Cellular immunity activates a process of engulfing or digesting germs to destroy them and the antibody-producing humoral system produces antibodies to produce the memory part of the immune response. Dr. Buttram notes that the cellular immune system plays a primary governing role in the control of viral and fungal infections.

Here is a big lesson of this paper -- cellular and humoral immunity are governed by T-helper cells (the T stands for thymus gland). So-called naïve T-helper cells that are uncommitted (have not made antibodies against any incoming pathogen yet) work in a profound manner to intercept any and all new biological threats as they enter the body. Vaccines upset the apple cart, says Dr. Buttram. All current vaccines bypass the cellular immune system and stimulate the humoral system, which reverses the natural scheme set in place. The cellular immune system loses its natural responsiveness due to inactivity. Early on, vaccines for chicken pox and mumps were uncalled for because they were almost always benign and served to prime the immune response. But as vaccines were adopted these mild pathogens became killers.

Early infancy is a time of rapid immunological development; antigenic stimuli (germs) can shape the developing immune system to program a lasting immune response. Nutritional status in early life may impact development of the human immune system as there is a positive association between birth weight and antibody response. This leads to the hub of the memory part of the immune system – the thymus gland. The thymus gland is located beneath your breastbone (sternum) just below your neck.
The overlooked or under-emphasized aspect of human immunity is the critical need to produce naïve (virgin) T-cells that have not yet made antibodies against any incoming antigen. The entire strategy to vaccinate is based upon the development of antibodies that have a memory and can produce long-standing immunity.

A fresh supply of these naïve T-cells is needed throughout life. These cells emanate from the thymus gland. The thymus is actually the main source of these naïve T-cells. Aging of the immune system is characterized by loss of thymus gland function.  

The entire strategy to vaccinate is based upon the development of antibodies that have a memory and can produce long-standing immunity.

Without naïve T-cells vaccines don’t work. How are T-cells produced in the body? They emanate in the bone marrow and mature and are primed and activated in the thymus gland. It is this thymus-gland facilitated immunity that is the focus of this report.

The thymus gland is critically sensitive to under-nutrition. Bottle-fed infants have smaller thymus glands than breast-fed infants. A smaller thymus gland at birth predicts an increased risk for infection and related mortality.

In laboratory mice without a thymus gland the effectiveness of vaccines is nil.
Size of the thymus gland

The size of the thymus gland can be assessed in very low birth weight and preterm neonates. There is a correlation between the size of the thymus gland at birth and the birth weight of the infant.

A small thymus gland at birth is also associated with bacterial infection of the fetal membranes (called chorioamnionitis). In one study 69% of newborns with a small thymus gland had findings consistent with a fetal infection whereas none of the women birthing a child with normal-sized thymus exhibited any such evidence of infection.

Not unexpectedly, preterm newborns that die are more likely to have small thymus gland weight. In one study 85% of the infants born prematurely (before 28 weeks of gestation) had a small thymus gland.
<table>
<thead>
<tr>
<th>AGE</th>
<th>MASS</th>
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<tbody>
<tr>
<td>Birth</td>
<td>About 15 grams</td>
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<tr>
<td>Puberty</td>
<td>About 35 grams</td>
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<tr>
<td>25 years</td>
<td>About 25 grams</td>
</tr>
<tr>
<td>60 years</td>
<td>Less than 15 grams</td>
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<tr>
<td>70 years</td>
<td>As low as 5 grams</td>
</tr>
</tbody>
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Fetal thymus growth during pregnancy is significantly correlated with fetal weight and immune-status at birth.71

**The need for naïve T-cells**

Why do older adults’ immune systems not respond to vaccines by making sufficient antibodies?

A prominent late-in-life development is called immunosenescence, which is when progressive thymus gland shrinkage (involution) leads to a decline in virgin (naïve) T-cells that have not made antibodies against any foreign threat yet and primed to make antibodies against new biological threats.72

“Very few people realize that the process of aging correlates with a decreased ability of the immune system to generate responses to incoming pathogens and vaccines. This age-related decline in immunity is referred to as ‘immune-aging’ or ‘immunosenescence’.”73

There is a need for continual production of naïve T-cells to mount an effective immune response against bacterial, viral and fungal infections.74
The thymus gland shrinks at the rate of ~3% per year in middle age (35-45 years) and ~1% per year throughout the rest of life.75

It has been said: that “of all the changes of the ageing immune system, regression (shrinkage) of the thymus gland is the most dramatic, ubiquitous and recognizable process, having been first recognized 70 years ago, however still little is known about mechanisms that contribute to this event.”76

With advancing age this gland is gradually replaced by fatty tissue and disappears. [Advances Clinical Experimental Medicine 2016]

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“Of all the changes of the ageing immune system, regression (shrinkage) of the thymus gland is the most dramatic, ubiquitous and recognizable process.”
Aging & Disease, Oct. 2011

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Regardless of age, decreased antibody production and shortened immunological memory resulting in vanishing immunity after vaccination is due to the atrophy of the thymus gland.77
CHAPTER 4

Zinc and immunity

Is there anything that can be done about this predicament? Yes!

Zinc is a cofactor for thymulin, a thymus bland hormone essential for T-cell maturation. Oral zinc supplementation stimulates thymus growth and thymus gland hormone (thymulin) levels, which suggests the age related decline in thymus function may be due to zinc deficiency. This condition may be partially if not fully corrected by zinc supplementation.

The most prominent effect of zinc deficiency is a decline in T-cell function. A shortage of zinc and impaired T-cell immunity leads to decreased response to vaccination.

Most studies confirm a decline in zinc blood levels with advancing age but most do not classify the majority of elderly as zinc deficient. However, even marginal zinc deprivation can affect immune function. Oral zinc supplementation has the potential to improve immunity in the young and old.

A shortage of zinc impairs the immune antibody response produced by vaccines and reduces cellular and humoral immunity.

The grams per centimeter index weight of the thymus gland in low birth weight newborns is generally less than normal birth weight newborns and correlates with zinc levels in the umbilical cord.

Mothers of low birth weight newborns and their babies are more likely to have low blood serum levels of zinc.

Zinc supplementation during pregnancy may result in a reduction of the risk of preterm birth. Preterm neonates are at a particular risk to develop zinc deficiency due to low body stores emanating from less time to transfer zinc from the placenta, increased losses and marginal intake.
Clinical manifestations of zinc deficiency in newborns are growth impairment and skin infections.\textsuperscript{86}

Pediatricians compared a group of very-low birth weight preterm neonates who began receiving $\sim 10$ milligrams of zinc per day with a group that was given $\sim 1.5$ milligrams per day at the 7\textsuperscript{th} day of life. Morbidity was 26.8\% in the higher-zinc group and 41.7\% in the low-zinc group. The low-zinc group was more likely to die (237\% increased risk).\textsuperscript{87}

Maternal zinc deficiency during pregnancy may increase the risk for low birth weight infants. One study showed a 341\% increased risk for low birth weight among mothers with low zinc levels.\textsuperscript{88} Early provision of zinc to low birth weight neonates assists in catch-up growth.\textsuperscript{89}

It is no surprise to learn that very low birth weight preterm infants exhibit acute thymus gland atrophy (shrinkage). An outcome of small thymus in very low birth weight premature newborns is the development of abnormal cells (dysplasia) in the lungs.\textsuperscript{90}

Normal birth weight babies are 5.7 times more likely among pregnant women who received zinc supplements compared to those who didn’t.\textsuperscript{91}

However, even the provision of zinc in the diet of very low birth weight infants may not completely eliminate zinc deficiency in these newborns.\textsuperscript{92}

Another study found lower blood serum levels of the trace mineral selenium is associated with small-for-gestational age birth.\textsuperscript{93} Selenium is a release agent for zinc.

Most aged individuals exhibit low-grade sustained inflammation as evidenced by various markers (C-reactive protein, interleukin-6 and TNF-alpha) that is called “inflammaging.”\textsuperscript{94}

Chronic oxidation and resultant inflammation may lead to binding of zinc to metallothioneins.\textsuperscript{95}
Specifically, an inflammatory factor (interleukin-6) provokes low zinc bioavailability via metallothionein binding.\(^6\)

Zinc supplementation may be useful to improve immune responses in old age.\(^7\) Binding of zinc to metallothioneins may be one of the causes of reduced thymus gland efficiency in old age.

Of note: as early as 1938 zinc sulfate was being used to prevent polio.\(^8\)

**Zinc and premature birth**

Premature birth is a sore point in the US healthcare system. An article published in the Washington Post called it a “national embarrassment.” The US ranks 27\(^{th}\) among wealthy nations in infant mortality.\(^9\) Premature birth is on the upswing and is now the leading cause of death among newborns and a major cause of long-term disability.

Pre-term births cost the U.S. more than $26 billion annually. The boom in multiple births driven by fertility treatments is one of the biggest culprits says a report by Health Day. Accompanying the rise in premature births is an increase in “silent” bacterial and viral infections says the report. Almost half of all premature births have no clear cause says the March of Dimes. Smoking and bacterial infections are known causes of premature birth. More than 500,000 American babies are born prematurely each year or one out of eight births.\(^{10}\)

Premature birth is the leading cause of infant death in the US and is also associated with lifelong disabilities. A child born before 37 weeks of pregnancy is considered preterm.\(^{11}\)

Smoking is a risk factor for premature birth and tobacco use depletes vitamin C. The provision of 1000 mg of supplemental vitamin C has been shown to reduce the risk for preterm birth and the placenta peeling away from the inner wall of the uterus before delivery (known as placental abruption) among smokers.\(^{12}\) Smoking correlated with smaller size of the thymus among newborns.\(^{13}\)
Every year more than 20 million infants are born weighing less than 2.5 kilograms/5.5 lbs. with over 96% of them in underdeveloped countries. Low birth weight infants are frequently deficient in one or more micronutrients. Routine zinc supplementation for low birth weight infants fed mother’s milk is an overlooked issue by the World Health Organization.\textsuperscript{104}

Approximately 12% of infants born in the U.S. are delivered preterm and 1.5% are born with very low birth weight. Nutrition status of the mother and infant are linked to both premature birth and low birth weight.

A small reduction (14%) of preterm birth of babies has been noted with zinc supplementation.\textsuperscript{105} The reason why there is not a more demonstrable effect for zinc in preventing prematurity could be explained by the lack of available zinc, particularly because prenatal formulas rich in iron and calcium block zinc absorption.

Maternal zinc levels differ between premature (lower zinc) and full-term deliveries (higher zinc).\textsuperscript{106}

We now know why both very young and very old don’t respond to vaccines very well. The very same two age groups that do not produce sufficient antibodies after vaccination, infants and the elderly, are susceptible to zinc deficiency.

The proportion of zinc deficiency in infants 0-4 years of age ranged from 36.5% in males and 47.3% in females. The prevalence of zinc deficiency in adults was 19.7% by the eighth decade of life.\textsuperscript{107}

Another study shows prenatal iron/zinc supplementation increased birth weight among anemic and iron deficient women.\textsuperscript{108}

In one study of prematurely born infants zinc was provided to premies in a dose of \(\sim 1.0\) milligrams/day per kilogram (2.2 lbs.) of body weight, which was previously considered adequate, and at a dose of 1.8-2.4 milligrams/day per kilogram of body weight. Of note, most
commercially available milk fortifiers provide around 2.0 mg/kilogram of body weight per day. Physicians carefully prescribe supplemental zinc to maintain a balance with copper. Another precaution, higher dose zinc may impair iron absorption, which is required for red blood cell production.

There are no nutrient intake recommendations specific to preterm infants in the US equivalent to the Dietary Reference Intakes in the US. Zinc has been identified as a critical nutrient among prematurely born infants. Zinc in breast milk may not be sufficient even though it is superior to bottle-fed formula. The practice of adding such zinc fortification to infant formulas has become common practice.

**Breast feeding and zinc**

Zinc requirements increase as a baby ages. In the early months, 4-6 months, the daily zinc requirements of a baby are only 2 mg/day. Usually breast milk is sufficient to provide the baby with zinc. However, when a baby grows beyond 6 months, his/her daily requirements for zinc increase to 3 mg/day. For mothers who exclusively breastfeed their child and don’t wean them at this age, their child may develop a zinc deficiency.⁠¹⁰⁹,¹¹⁰

It is precisely at this time, at about 4-6 months of age, that the thymus gland begins to shrink in infants.⁠¹¹¹

**Blood tests and zinc**

A low zinc blood level is indicative of deficiency but an adequate zinc blood level is not necessarily a reliable measure of sufficiency.⁠¹¹²

Blood serum zinc levels are not considered a reliable measure of zinc stores in the body and therefore cannot be used to ascertain zinc need for zinc supplementation. Said another way, a number of studies report no association between dietary zinc intake and blood plasma or serum zinc levels. A presumptive diagnosis of zinc deficiency can be made in
the context of zinc deficiency symptoms (diarrhea, lack of growth, underweight, etc.).

Zinc adequacy should be determined by the ability of zinc to meet the needs of the body. Zinc deficiency is most likely to occur among subjects with high zinc requirements, such as infants and pregnant women.\textsuperscript{113}

Since blood plasma zinc levels do not correlate with zinc intake, such a test cannot be used to ascertain the efficacy of zinc supplements. The blood plasma concentration of zinc does not correlate with zinc intake.\textsuperscript{114}

Zinc deficiency is often thought of as a problem confined to underdeveloped countries. But zinc deficiency is an increasing problem in the USA.\textsuperscript{116}
**Zinc absorption & bioavailability**

The possible factors that control zinc absorption and availability are\(^{117}:\)

1. Lack of stomach acid with advancing age
2. Competitive absorption of zinc with copper, which only occurs at very high doses of copper.\(^{118}\)
3. Fiber (phytate) in the diet or calcium and iron in supplements
4. Metallothionein
5. Excretion
6. Adaptive increased absorption in states of severe deficiency
7. Form of zinc. Zinc oxide is insoluble in water though it is widely sold as a dietary supplement.\(^{119}\)
8. High fructose corn syrup consumption may negatively impact zinc nutriture.

While some studies show the absorption of zinc is not impaired by a lack of stomach acid,\(^{120}\) in one study zinc absorption averaged 17% in elderly men and 31% in young men.\(^{121}\) Low secretion of stomach acid is common among young infants and the elderly,\(^{122}\) the two groups that do not respond well to vaccination.

There are mixed reports on whether chronic use of antacids appears to reduce absorption of zinc.\(^{123,124}\)

Synthesis of the zinc binder metallothionein is induced only by large amounts of zinc.\(^{125}\)

The inclusion of vitamins A & D with zinc improves zinc absorption.\(^{126}\)

Other companion minerals may work in tandem to enhance the bioavailability of zinc. The trace mineral selenium facilitates the release of zinc from metallothionein as it is transported in the blood circulation.\(^{127}\) Vitamin B6 also releases zinc release from metallothionein.\(^{128}\)
A question often asked is why are so many well-fed Americans zinc deficient?

One answer is that high-fructose corn syrup, which began to be added to prepared and processed foods in the 1970s, interferes with zinc/copper balance. It is interesting to note that when high fructose corn syrup was fed to humans, more cases of diarrhea were reported. Diarrhea is a sign of zinc deficiency.\textsuperscript{129}

In addition to zinc, there is data showing magnesium deficiency induces thymus gland involution (shrinkage).\textsuperscript{130,131}
The autism explosion and modern medicine’s perplexing explanation

While modern medicine often claims it has no idea what causes autism, there is evidence of other potential causes that aren’t included in precautions issued to women during pregnancy.

The primary reason why the rates of autism have soared in recent years is now known. It is not mercury in vaccines. The rise in autism is associated with complicated births, particularly birth complications emanating from multiple births. Implantation of multiple embryos in in vitro fertilization is believed largely to be responsible for the rise in multiple births and subsequent autism. Women who gave birth to singleton children conceived by assisted reproduction technology (in vitro fertilization) had no increased autism risk.\footnote{132}

In analyzing data from 6 million children born from 1997 to 2007 investigators found multiple births accounted for the difference between being diagnosed as autistic or not. This is a modifiable factor in that fertility specialists can implant a single embryo rather than multiple embryos.

The rate of autism was 12.1 for every 1000 births assisted reproductive technology (in vitro fertilization) and 5.5 per 1000 births for non-assisted births. Modern medicine DOES know the primary reason for the explosion in autism diagnoses!\footnote{133,134}

The multiple-birth explanation for the rise in cases of autism is consistent with the idea of insufficient nutrition to nourish multiple embryos.

Why physicians have acted clueless about the link between fertility procedures and births giving rise to diagnoses for autism goes unexplained. Certainly pediatricians would have noticed that the mothers of many autistic children utilized fertility services. This is puzzling.
Among other known causes of autism is use of antidepressant drugs during pregnancy. An increased risk for autism is associated with use of antidepressants.\textsuperscript{135,136}

Maybe vaccines indirectly cause autism and avert getting the blame. Some of the alleged harms caused by childhood vaccines may be indirect, such as vaccination provoking a fever that is then treated with acetaminophen (Tylenol) that induces unwanted side effects.\textsuperscript{137,138,139}

One study showed a striking 611\% increased risk for autism among children age 5 years or less after measles-mumps-rubella vaccination emanating from use of acetaminophen to control fevers induced by vaccination.\textsuperscript{140} Over 40\% of mothers report use of acetaminophen during pregnancy.\textsuperscript{141,142}

Not unexpectedly, a large percentage of autistic infants are zinc deficient.\textsuperscript{143} The zinc/copper ratio is a biomarker for autism.\textsuperscript{144}

A study of 1967 autistic children found 584 were mineral deficient. Zinc (29.7\%), magnesium (17.6\%) and calcium (5.8\%) deficiencies were prevalent among these children. Infants 0-3 years old exhibited the highest mineral deficiencies. In contrast, a significant percentage of these autistic children had high levels of aluminum (17.2\%), cadmium (8.5\%) and lead (4.8\%).\textsuperscript{145}

Other researchers report the rate of zinc deficiency is significantly increased among autistic children compared to healthy age-matched control. Among the very young (0-3 years of age) zinc deficiency is reported to be 50\% and often correlate with simultaneous copper overload.\textsuperscript{146} Impaired social behavior and communication problems among zinc deficient mice points to a shortage of this mineral as a primary factor in human cases of autism.\textsuperscript{147}

The prevalent denial that vaccines are not responsible for the upsurge in autism among children is disingenuous as overly large studies can hide subgroups of children who are harmed by vaccination. This is something that Steve Hickey PhD of Manchester, England talks about in
his book entitled Tarnished Gold: The Sickness of Evidence-Based Medicine.\textsuperscript{148}

Indeed, it was whistleblower William Thompson, a CDC senior scientist who disclosed a subset of vaccinated African American boys with a higher risk for autism than unvaccinated children.\textsuperscript{149}

The American Pediatric Association calls for childhood screening for autism between 18-24 months of age but there is no consensus as to cause and no approved treatment.\textsuperscript{150} So screening for childhood autism is only done for show.

It is strangely odd that modern medicine throws up its hands when it comes to explaining what causes autism, a behavioral disorder that was called childhood schizophrenia in the distant past. Pediatricians say they don’t know what causes autism. But pediatricians CAN tell parents with certainty they know what doesn’t cause autism – vaccines!\textsuperscript{151} That denial will also be addressed in this report.
The blood brain barrier

The injection of heavy metals into a child without a fully developed blood brain barrier (less than 2-3 years of age) is being questioned. A report published in Current Medicinal Chemistry\textsuperscript{152} (2011) says “the possibility that vaccine benefits may have been overrated and the risk of potential adverse effects underestimated, has not been rigorously evaluated in the medical and scientific community.”

The brain is protected by a barrier that prevents entry of toxins. Over 100 years ago researchers injected dyes into the circulatory system and the dye was visible in almost all tissues except the brain. The concept of a protective-brain barrier was conceived.

The idea of infants being born with an undeveloped blood-brain barrier needs to be updated. Actually there is an elaborate intact blood-brain barrier from the get-go in life. Tight cellular junctions are evident even in the embryonic brain. However, developing cerebral blood vessels are more fragile than in adults. While protection for the brain from exogenous toxins is present from an early point in life there are vulnerabilities in the brain whereby disruption may lead to brain damage.\textsuperscript{153}

A critical time period is when young infants are vulnerable to toxins that may enter the brain and nervous system before the blood/brain barrier is fully developed. A reason why regulatory bodies in the US and the European Union advise caution over giving drugs to pregnant women or infants is the “immaturity” of the blood-brain barrier. Up until birth the fetus is protected by the placenta. In succeeding paragraphs of this report, William Walsh PhD will expound on our understanding of the brain’s vulnerability to heavy metals and toxins.
Metallothionein: zinc binding and vaccine-related maladies

The body only has limited zinc stores that are easily depleted. Infections or chronic inflammation leads to zinc being sequestered away (bound to proteins-- metallothionein).

The human body contains 2-3 grams (2000-3000 milligrams) of zinc, which is bound to proteins for transport and release. Zinc is transported via the blood plasma that represents less than 1 percent of the total body content. In infection and/or chronic inflammation zinc is sequestered (bound) to proteins, thus inducing a state of deficiency or more accurately, lack of bioavailability. For this reason, zinc blood tests may not reflect the true state of zinc availability.

The major family of proteins that bind zinc are called metallothioneins. Lack of zinc availability in the elderly may impair zinc-dependent cell signaling and thereby immune function. Because of this binding to metallothioneins, a zinc/blood plasma level in the normally occurring range (70-110 micrograms per deciliter; >10.7 micrograms per deciliter) may not adequately reflect the bioavailability of zinc.

The problem that fools physicians is that blood serum zinc levels decline with advancing age but still remain within the normally occurring range (called the reference range), but the reference range may not be the healthy range. The more likely case is that the entire population may be deficient.

Another misconception physicians may have is that excessive zinc supplementation may over-activate the immune system inducing autoimmune (body against itself) reactions. Zinc normalizes the immune response.

As stated elsewhere in this report, mega-dose zinc induces a metal controlling molecule called metallothionein that may over-bind zinc, resulting in normal blood levels but zinc that is not bioavailable. The provision of selenium and vitamin B6 as releasing agents with zinc may
be produce more beneficial results particularly when metals (aluminum, thimerosal/mercury) are intentionally being induced with vaccines.

Given that the most prominent effect of zinc deficiency is a decline in T-memory cell function upon which vaccines rely to produce antibodies, it becomes critical to maintain adequate zinc nutriture. It is no coincidence that the two age groups that do not respond well to vaccines (exhibit poor antibody production) which then requires more booster shots and stronger heavy metal adjuvants like aluminum and mercury are the two ages groups that are most likely to have low zinc intake or low zinc blood levels or blood bioavailability of zinc due to metallothionein binding.

**Metallothionein and vaccination**

It is believed that mercury accumulation may occur as a cause or consequence of metallothionein dysfunction in children with autism.\(^{154}\)

Modern vaccines include the adjuvants aluminum and thimerosal (mercury). These toxic adjuvants provoke the immune system to respond and thus activate more antibodies.

William Walsh PhD
According to William Walsh PhD, who heads the Walsh Research Institute\textsuperscript{155} and authored the book NUTRIENT POWER (2014)\textsuperscript{156}, over 99% of autistic children have abnormal trace mineral levels in their blood and urine. Metallothionein is the chief regulator (binder) of these metals. Metallothionein is at the center of autistic behaviors. Dr. Walsh considers metallothionein irregularities as a universal characteristic of autism.

In Dr. Walsh's experience, 85% of autistic children are copper overloaded and zinc depleted.\textsuperscript{157}

Dr. Walsh lists nutrients that help release zinc from metallothioneins: selenium, vitamin B6, magnesium (gluconate, ascorbate), vitamins C & E and glutathione.

Zinc, like all metallic minerals in the body, is bound to proteins in a perfect state of health. Free unbound metals like iron, copper, cadmium, lead and mercury, pose problems. Metallothionein (online pronunciation) is produced as greater amounts of zinc are consumed. Metallothionein also binds to cadmium, aluminum and mercury, the latter two being adjuvants in vaccines. A shortage of zinc in the diet results in low levels of metallothioneins to control reactive metallic minerals.

Infections during gestation (pregnancy), infancy or early childhood combined with metals like aluminum or thimerosal (mercury) that serve as adjuvants (antibody boosters) or preservatives in vaccines may promote metallothionein binding to zinc.

The importance of zinc nutriture when vaccines are being administered cannot be overemphasized. Dr. Walsh takes over from here to explain the importance of zinc and its binding protein metallothionein during the years when children are receiving vaccines.

Dr. Walsh explains that zinc must be in balance with copper for optimal health. Prolonged illness can drain zinc. Low zinc stresses the gut and
can lead to “leaky gut”, poor absorption and digestion and of all things, intolerance to zinc.

Since zinc provokes the synthesis of its binding protein, excessively high doses of zinc may produce so much metallothionein that there is no zinc being released for biological purposes. Copper then dominates in relation to zinc. Copper oxidizes dopamine and impairs working memory.\textsuperscript{158}

Any infections or biological insults in utero during gestation (pregnancy), infancy or early childhood sustained from injection of a heavy metal in a vaccine, or any viral or bacterial infection, can disable a weak metal binding protein (metallothionein) system and provoke the onset of autism. Dr. Walsh says any biological insults during gestation could result in more severe autistic symptoms that are evident at birth while its severity varies by developmental age and degree of insult. With the maturing of the brain after age three, says Dr. Walsh, insults
are likely to result in speech delays or attention deficits rather than full-blown autism.

Russell Blaylock MD, retired neurosurgeon, asserts overstimulation of the systemic immune system by repeated inoculations spaced close together can result in chronic activation of the brain’s microglial cells that comprise the brain’s immune response can lead to autism.\textsuperscript{159}

Supplemental zinc increases zinc binding via metallothioneins during pregnancy.\textsuperscript{160} In an opposite fashion, zinc deficiency inhibits metallothioneins and results in oxidation.\textsuperscript{161}

Increased metallothionein is associated with large brain size observed in most young autistic patients.\textsuperscript{162} This may represent over-binding of zinc.

Of interest, increased levels of metallothioneins are found in the placenta of smokers along with a predictable increase in cadmium.\textsuperscript{163}

Severe zinc deprivation can also increase metallothioneins as a natural survival strategy.\textsuperscript{164}

The inclusion of quercetin, a polyphenol found in onions a red apple peel, when combined with zinc further increases metallothioneins levels.\textsuperscript{165} While IP6 (phytic acid) as an extract from rice bran may abrogate the polyphenol increase of metallothionein, IP6 reduces the availability of metals like iron and zinc which are growth factors for cancer and germs like bacteria and viruses.\textsuperscript{166}

Some zinc supplementation studies show no improved vaccination antibody response when zinc is provided.\textsuperscript{167} It is likely that zinc is bound to metallothionein and is not available. For example, mega-dose zinc (200 mg zinc sulfate) had no effect upon immunity among the elderly.\textsuperscript{168}

Selenium provokes release of zinc by metallothioneins.\textsuperscript{169,170}
CHAPTER 5
Nutrition and vaccination

A major analysis of the impact of nutrition upon the effectiveness of vaccines was published in 2009. It was hoped this review would bring clarity as to the role of nutrition to anyone undergoing vaccination. However, it apparently led to confusion.

The focus was on vitamins A and D and iron and zinc. All vaccines were considered. Observational and controlled human trials were analyzed. The conclusion was that malnutrition had surprisingly little or no effect on vaccine response. However, authors noted firm conclusions could not be drawn because of the paucity or poor quality of available studies.

Global vaccination rates have increased from less than 20% in the 1970s to over 70% today. The World Health Organization says immunization saves more than 3 million lives a year and prevents illness and disability in many others.

The pro-vaccine report said in contrast to the vast number of published studies involving vaccines, “under-nutrition is an area of little progress. It is still the underlying cause of more than one-third of deaths in children under 5 years of age, representing 3.5 million child death every year.” Vitamin A and zinc were identified as having the greatest potential to reduce childhood mortality and morbidity.

__________________________________________________________________________________

Under-nutrition is an area of little progress. It is still the underlying cause of more than one-third of deaths in children under 5 years of age, representing 3.5 million child death every year.”

__________________________________________________________________________________
The report, written by an impressive international group of investigators, said: “Full vaccine efficacy requires a full set of immunological responses, starting with antigen (germ) recognition to antibody production and lifelong memory immunity (paraphrased).”

The problem is there are many conflicting studies. Only 43 studies involved vitamin A, 4 studies for vitamin D, 10 for iron and 22 for zinc.

These researchers did note that zinc deficiency is associated with thymus gland atrophy and a decline in secretion of thymus hormone that controls the function of T-memory cells. Excessive zinc may compromise thymus function. An important finding was that zinc status may play an important role in immunologic memory, which is the crux of this white paper.\(^\text{171}\)

That zinc nutriture has not found its way into public health policy is a shortcoming of modern medicine.

____________________________________________________

Vaccines are necessary where the public health authorities and practicing physicians find populations undernourished and immune compromised and vulnerable to every imaginable infectious pathogen and then use vaccines to rescue the masses from the brink of death.

____________________________________________________
Zinc intake

“The biggest public health problem we have isn’t ignorance – it’s the illusion of knowledge.”

–Edwin Archer PhD

Zinc intake levels for various age groups of Americans were reported in 2000 in the Journal of Nutrition. This flawed NHANES data reported that 55.6% of Americans were zinc adequate based on total intakes that were greater than 77% of the 1989 Dietary Allowances. While the NHANES III data may be flawed, there is little question that a lot of Americans in a well-fed country are zinc inadequate. The report noted that zinc deficiency might arise from low dietary intakes, low bioavailability and/or interaction with other nutrients and losses of the mineral through disease processes. The report used survey data from the third National Health and Nutrition Examination Survey (NHANES III), was conducted in 1988–1994.¹⁷²

However, the data from NHANES is flawed. Upon reanalysis, 67% of women and 58% of men gave an estimated intake that wasn’t “physiologically plausible.”¹⁷³ They reported so many or so few calories that they “could not have survived.” The data is not just inaccurate, it is patently false, says Edward Archer PhD, who reviewed NHANES.¹⁷⁴ Archer says: “The biggest public health problem we have isn’t ignorance – it’s the illusion of knowledge.”¹⁷⁵

In confirmation of a zinc deficiency in the two groups that do not respond well to vaccination (fail to make sufficient antibodies), a recent study is telling. While there is little concern over zinc deficiency in developed countries, hair analysis of 28,424 subjects in Japan found zinc
deficiency exceeded 20% in children and the elderly. The proportion of zinc deficiency in infants 0-4 years of age was 36.5% in boys and 47.3% in girls! Other studies conducted in Europe also confirm the elderly are prone to zinc deficiency in developed countries.\textsuperscript{176}

**Prevalence zinc deficiency**

While it is conservatively estimated 25\% of the world’s population is at risk for zinc deficiency, most who are affected are presumed to be poor and rarely consume foods that provide ample amounts of zinc.\textsuperscript{177}

**Prioritizing zinc**

When zinc was supplemented to residents of 33 nursing homes in Boston, MA, those individuals who achieved normal blood serum zinc concentrations had a lower incidence of pneumonia, 50\% fewer antibiotic prescriptions, a shorter duration of pneumonia and fewer days of antibiotic use. Normal zinc levels were associated with lower all-cause mortality.\textsuperscript{178}

In another study, when 30 milligrams of zinc was provided to 53 elderly nursing home subjects for 3 months, serum zinc levels rose 16\% and T-cell function was enhanced.\textsuperscript{179}

Comparatively, the overall efficacy of the vaccine for pneumonia (pneumococcal conjugated vaccine) is very low.\textsuperscript{180} Effectiveness of this the PCV13 conjugate vaccine ranges from 45-75\% for invasive disease.\textsuperscript{181} Multiple clinical trials have shown pneumonia (polysaccharide) vaccine has failed to reduce risk for pneumonia.\textsuperscript{182} Given that senior Americans have zinc intakes below 50\% of the recommended daily allowance on a given day,\textsuperscript{183} why would anyone leave an elderly American zinc-deficient though well vaccinated?
<table>
<thead>
<tr>
<th>Signs &amp; Symptoms of Zinc Deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrial fibrillation</td>
</tr>
<tr>
<td>Lack of appetite, anorexia</td>
</tr>
<tr>
<td>Weak immunity</td>
</tr>
<tr>
<td>Poor wound healing</td>
</tr>
<tr>
<td>Impetigo</td>
</tr>
<tr>
<td>Dyslexia</td>
</tr>
<tr>
<td>Low dopamine</td>
</tr>
<tr>
<td>Dental caries</td>
</tr>
<tr>
<td>Skin rash</td>
</tr>
<tr>
<td>Thinning hair</td>
</tr>
<tr>
<td>Tinnitus (ear ringing)</td>
</tr>
<tr>
<td>White coated tongue</td>
</tr>
<tr>
<td>Sweaty feet</td>
</tr>
</tbody>
</table>
Zinc supplementation

The dosage of commercial zinc supplements range from 7 to 80 milligrams (the latter dose for macular degeneration). One survey published in 2002 showed only 2.5% of adults reported using zinc supplements. However, multivitamins providing 7.5 mg to 15 mg zinc were used by 62% of adults.

Authorities recommend zinc supplementation at two to three times the recommended daily allowance (RDA) for mild deficiency and four to five times the FDA for moderate to severe deficiency. Treatment should last for 6 months.\textsuperscript{184}

While breast milk generally provides around 2 mg zinc/day at the six-month point the infant requirement for zinc rises to 3 mg/day. In addition to a mother’s own requirements for zinc which are generally met with daily consumption of 10-15 mg of zinc, an additional 5-10 mg of zinc is suggested per day during pregnancy and lactation, for a total of 15-25 mg/day.\textsuperscript{185}
There are many types of zinc supplements available. Zinc oxide, the most economical zinc supplement, is not soluble in water whereas other forms of zinc (gluconate, citrate, acetate) are more desirable. Zinc is bound to (chelated to, pronounced key-lay-ted) carriers such as oxide, citrate, gluconate, acetate. Different forms provide different amounts of elemental zinc.

<table>
<thead>
<tr>
<th>FORM OF ZINC</th>
<th>ELEMENTAL ZINC %</th>
<th>TYPICAL DOSE Milligrams provides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide (insoluble)</td>
<td>80%</td>
<td>100 mg provides 80 mg</td>
</tr>
<tr>
<td>Zinc citrate</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Zinc acetate (lozenges)</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Zinc sulfate</td>
<td>23%</td>
<td>220 mg provides 60 mg</td>
</tr>
<tr>
<td>Zinc carnosine</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Zinc mono-L-methionine</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Zinc picolinate</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Zinc gluconate</td>
<td>14%</td>
<td>10 mg provides 1.4 mg</td>
</tr>
</tbody>
</table>

**Recommended Daily Allowance**

<table>
<thead>
<tr>
<th>Group</th>
<th>Allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants &amp; children 7 months-3 years</td>
<td>3 mg/day</td>
</tr>
<tr>
<td>4-8 years</td>
<td>5 mg/day</td>
</tr>
<tr>
<td>9-13 years</td>
<td>8 mg/day</td>
</tr>
<tr>
<td>Girls 14-18 years, girls</td>
<td>9 mg/day</td>
</tr>
<tr>
<td>Boys &amp; men, 14 years &amp; older</td>
<td>11 mg/day</td>
</tr>
<tr>
<td>Women, 19 years &amp; older</td>
<td>8 mg/day</td>
</tr>
<tr>
<td>Pregnant women, 14-18 years</td>
<td>13 mg/day</td>
</tr>
<tr>
<td>Pregnant women 19 &amp; older</td>
<td>11 mg/day</td>
</tr>
<tr>
<td>Lactating women, 14-18 years</td>
<td>14 mg/day</td>
</tr>
<tr>
<td>Lactating women, 19 years &amp; older</td>
<td>12 mg/day</td>
</tr>
<tr>
<td>Senior adults</td>
<td>Not established</td>
</tr>
</tbody>
</table>

**Zinc upper limit**

The Tolerable Upper Intake Level for zinc established by the Institute of Medicine is 4 milligrams/day for infant in the first 6 months of life. Nutritionists are concerned that a dose of 3 milligrams/day per kilogram of body weight would be toxic. However, when ~10 mg of zinc/day was provided to a group of very low birth weight infants (less
than 3.3 lbs./1.5 kilograms) beginning in the first week of life and continued for 42 weeks which was equivalent to 6-8 mg/day per kilogram of body weight, a beneficial outcome was shown for morbidity and mortality.\textsuperscript{186} It’s obvious, over unfounded fear of overdosing, the population of children is deprived of zinc.

The upper limit for zinc intake is as follows\textsuperscript{187}:

<table>
<thead>
<tr>
<th>Age</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>4 mg</td>
</tr>
<tr>
<td>7-12 months</td>
<td>5 mg</td>
</tr>
<tr>
<td>1-3 years</td>
<td>7 mg</td>
</tr>
<tr>
<td>4-8 years</td>
<td>12 mg</td>
</tr>
<tr>
<td>9-13 years</td>
<td>23 mg</td>
</tr>
<tr>
<td>14-18 years</td>
<td>34 mg</td>
</tr>
<tr>
<td>19+ years</td>
<td>40 mg</td>
</tr>
</tbody>
</table>

The primary reason for establishment of an upper intake levels (safe upper limit) is to prevent an imbalance with copper. However, the current upper limit for zinc for children needs to be reexamined based on the finding that copper status was unchanged by supplementation with 5, 10 or 15 mg of zinc/day for healthy boys.\textsuperscript{188,189}

No consensus on suggested dietary zinc intake

The recommendations for dietary zinc intake by the World Health Organization, the US Institute of Medicine, the International Zinc
Nutrition Consultative Group and the European Food Safety Agency do not vary widely but appear to be too precise and impractical.\textsuperscript{190}

For example, the European Food Safety Agency established the Recommended Daily Allowance (RDA) for zinc for a 130-lb (58 kilogram) adult female in a range from 7.3 to 16.3 milligrams/day depending on how much fiber (phytate) is consumed that interferes with zinc absorption. Just how does that kind of information translate to consumers who choose from zinc supplements that are commercially offered in standard doses of 15, 30 and 50 milligrams?

The European Food Safety Agency adjusted their recommendations for zinc intake for adults over age 18 depending upon the amount of fiber (phytate) they consumed. Fiber (phytate) interferes with zinc absorption. Herbivores (plant food eaters) would need 12.7 mg/day (females) to 16.3 mg/day (males) while carnivores (meat eaters) would need 7.5 mg/day (females) to 9.4 mg/day (males).

Given that the safe upper limit or no observed adverse effects level ranges from 35-45 mg/day for adults as established by all four standard-setting bodies, which is 4-5 times larger dose than the RDA, it appears the public health organizations making recommendations that are way too timid.

It is not uncommon for news reporters to then take the “perfectly safe upper limit” or the “no observed adverse effects level” and mischaracterize them as a potentially toxic level.

**Over reliance on vaccines**

Modern medicine is over reliant on vaccines to protect the elderly against infectious disease. Not only does vaccination in the aged often result in inadequate generation of antibodies against a particular bacterium or virus, in older age vaccination often does not adequately generate competent memory by T-cells so the effect of vaccination is not lasting. This is the primary reason why vaccines are not providing life-
long immunity. This is why adjuvants (like mercury (thimerosal) and aluminum that stimulate the immune response) must accompany vaccines.\textsuperscript{191}

**The problem posed by prenatal vitamins**

Immunonutrition needs to go beyond the current prenatal formulas that are part of the problem.

Of special note, the consumption of supplemental iron and calcium in prenatal dietary supplement formulas during pregnancy interferes with zinc absorption that could result in developmental problems such as pyroluria with its many behavioral and medical manifestations, and dyslexia in offspring who then have difficulty reading.\textsuperscript{192,193} Prenatal iron supplements have been found to impair zinc absorption during pregnancy. The inclusion of zinc in prenatal supplements may reduce the tendency for iron supplements to reduce zinc absorption.

Prenatal and early postnatal zinc deficiency impairs learning and memory, deficits that can persist into adulthood.\textsuperscript{194}

Zinc deficiency is often marginal and may or may not produce overt symptoms. In one study zinc fortification of food did not raise blood levels of zinc but did positively affect the immune response. Of considerable interest, a group of very old adults whose diet was fortified with zinc were observed for 1 year and compared with a group whose diet was not zinc fortified. Ten percent (10\%) of the zinc fortified group died during that period compared to 52\% in the non-fortified group. Only 10\% of the zinc-fortified group was hospitalized for infections versus 22\% in the non-fortified group.\textsuperscript{195} [Age 2014] Modern medicine is letting people die prematurely for the want of a simple trace mineral.

Adequate supply of nutrients during the first 1000 days of life is essential for normal development and health. Supply of iron and zinc during pregnancy had little effect on birth outcomes. The provision of 15 milligrams of iron/day reduced the risk of anemia but had no effect
upon growth. The provision of 10 mg of additional zinc during infancy increased zinc levels and had positive effects on the weight of the child. The daily provision of zinc has a positive effect on infants age 6-23 months.\textsuperscript{196} When there is a ratio of 2-to-1 or greater of iron over zinc in diets or supplements, zinc absorption is impaired. Prenatal formulas that provide high levels of iron have shown growth delay in infants (zinc being a growth factor).\textsuperscript{197,198}

\textbf{Vitamin D involvement in thymus gland development and immunity}

The linkage between multiple births and autism is consistent with under-nutrition. In multiple births available nutrients have to be split between offspring.

Therefore, it is not surprising to learn that a deficiency of vitamin D is more prevalent in twin birth than single pregnancies.\textsuperscript{199} Nor is it surprising to learn that being born in a sunny month is associated with better function of the thymus gland.\textsuperscript{200} And again, that vitamin D deficiency is associated with smaller fetal thymus size.\textsuperscript{201}

\textbf{How vaccines may escape blame}

Vaccines may escape blame for infections not vaccinated for. A controlled study of 115 children administered a trivalent flu vaccine (protects from 3 strains of the flu) found their risk for non-influenza upper respiratory tract infections rose by 440\% in the 9 months following inoculation! The kids didn’t get the flu (actually a lower risk), but they sure were sick with sore throats, coughs, phlegm, myalgia (body aches), headaches and fevers!\textsuperscript{202} Only God knows what else vaccines do.
We have learned the following:

The thymus gland is the center of the human immune response to produce memory immunity.

The thymus gland grooms naïve T-cells that have not made any antibodies yet and are poised to engage new biological threats (incoming pathogenic bacteria, viruses, fungi) and produces antibodies against them. These antibodies have memory, resulting in long-lasting immunity.

Therefore, vaccines primarily rely upon the biological response of T-cells to create extended immunity from diseases.
The thymus gland at all ages, from the womb to old age, is largely dependent upon zinc to maintain its size, shape and function.

Zinc is a mineral that is commonly in short supply during pregnancy (low intake or poor availability due to calcium and iron in prenatal vitamin), in infants (low intake) and in old age (poor absorption).

Low birth weight is indicative of a small underdeveloped thymus gland.

The provision of zinc reverses progressive shrinkage (involution) of the thymus gland at any age.

Newborns to about six months of age need about 2 milligrams of zinc per day, about the amount provided in breast milk. At age six months the infant has grown and need ~3 milligrams of zinc per day. Interestingly, this is the precise moment in time when the thymus gland atrophies (shrinks). This could be a very vulnerable time immunologically for an infant that is still being breast fed unless the mother supplements with extra zinc or the infant is given liquid zinc.

The intake of zinc activates internal production of metallothioneins, a binding protein. Excessive zinc can over-produce metallothionein and cause zinc to bind tightly to it, resulting in a normal zinc blood level, but with the zinc unavailable.

Stepped up dosage of zinc over time can avoid the over production of metallothionein. Other nutrients such as selenium and vitamin B6 (preferably at pyridoxyl 5 phosphate or P5P) are zinc/metallothionein releasing agents.

Zinc is better absorbed when given with vitamins A & D.

Zinc oxide is poorly soluble and other forms of zinc are preferred (gluconate, citrate, acetate, etc.)
Given all of above information, it seems reasonable to suggest all young children, from newborns forward, receive supplemental zinc prior to vaccination.

The ultimate goal of achieving adequate zinc nutriture in children is to see their immune system is up to par and that they will either be asymptomatic or experience only mild symptoms when challenged with pathogenic bacteria, viruses and fungi.

How many children are unvaccinated?
CHAPTER 7

Summary and Conclusions

1. An adequate immune response would address any and all strains of viruses and bacteria. However, it becomes impractical to do this with vaccines. To leave vulnerable young children and older adults with compromised immune systems due to the lack of simple, non-problematic and economical nutrients is unconscionable. The primacy of immunonutrition needs to rise above the prevailing failed vaccination paradigm. Vaccinologists have reached a point of diminishing returns as attempts are made to add more heavy metal adjuvants and make more acellular synthetic vaccines with considerable trade offs in duration of immunity and safety as well as the problem of silent transmission. Vaccines that improve immunity among young infants, children and old adults when the underlying problem is a weak immune response, defined as the lack of a pool of active zinc-dependent naïve thymus T-cells that address new biological threats.

However, there is opportunity to elevate immunity in the population as a whole and to make vaccines work more effectively among vaccine-resistant age groups through immunonutrition. To do this, the current anti-nutrition culture in the medical professions must be overcome.

It is not a coincidence that a leading proponent of vaccines, who has many financial conflicts of interest, also opposes the use of dietary supplements and has influenced the therapeutic standards committee to ban most dietary supplements from the children’s hospital where he is chief of infectious diseases. This is characteristic of the smug and arrogant denial of nutritional therapies that most parents of younger children face every day in pediatric offices throughout the country.
Opposition or foot dragging to such obvious and needed measures to improve public health suggests the public should sidestep their physicians and launch out on their own with guided instruction to practice immunonutrition, particularly high-risk groups.

2. The vaccine industry along with public health authorities appears to be concealing vaccine failures. Aside from the obvious cover-ups in 1993 where a flu vaccination program in nursing homes killed thousands of elderly Americans and the revelation by whistleblower William Thompson, a CDC senior scientist who disclosed that African American boys represented a subset of vaccinated children with a higher risk for autism than unvaccinated children, there are other concerns over transparency in vaccine safety.

Data on newborns or infants in early life is not available. Observational studies in the youngest infants who are under vaccination age are excluded from published studies. This may give an incomplete picture of what is really happening with these children pre-vaccination. Since developmental problems may not be observed till children reach the age of two, it is difficult to assess the outcomes and safety of all new and improved vaccines given during pregnancy and infancy, all which essentially are unproven and experimental.

3. Over-vaccination is commonly practiced. Everyone must be vaccinated to save just a few lives. Most healthy children and adults that are properly nourished, particularly with zinc, will experience only mild symptoms or be asymptomatic when dealing with most bacterial or viral infections. While the vaccine industry is quick to point seemingly convincing data showing how effective vaccines are in quelling morbidity (fever, hospitalizations) and deaths from infectious diseases, they do not tell the whole story. Many hundreds of thousands of unvaccinated but healthy children and adults who are infected with pathogenic bacteria and viruses
are asymptomatic. Healthy infants, children, mothers and older adults, those most at risk for severe infection and death, produce their own antibodies without having to undergo inoculation and they experience longer-lasting, even lifetime, immunity, compared to the new acellular synthetic vaccines that do not activate cellular immunity.

4. The commercialization of antibody production from exposure to antigens (bacteria, viruses) in vaccines is somehow thought to be good but the natural production of antibodies against disease, which produces life-long immunity, is unfairly ridiculed and condemned.

5. Food fortification represents a widely applicable and reliable way of achieving nutrient adequacy in the entire population. However, timely updating of intake requirements by the Food & Nutrition Board is not anticipated. Dietary supplementation is likely the best way to initially launch a program to nourish at risk Americans. While vitamins and mineral fortification food began in the 1940s, zinc is not on the list of fortified nutrients in flour. The Zinc Working Group suggests zinc oxide be used for food fortification, a highly insoluble form of zinc, because of low cost. The Zinc Working Group is primarily focused on zinc food fortification in underdeveloped lands.205

6. Physicians may be quick to say various nutrients do not need to be supplemented without blood testing to confirm a deficiency. But serum blood level tests for zinc and many other nutrients are notoriously misleading. Due to the natural binding of zinc to metallothioneins, zinc levels may appear normal when very little zinc is actually bioavailable. The provision of co-factors (selenium, magnesium, vitamin B6) to release zinc from metallothionein may be advantageous. Also blood serum nutrient levels may only provide information on what was consumed from the diet recently.
7. In yesteryears, it was common for children to mix and transmit viruses and bacteria and develop antibodies against childhood infectious diseases naturally. Today public health authorities overreact to so-called outbreaks of childhood measles, chicken pox or whooping cough as if such infection is horrific. In fact, antibodies were being produced to provide life-long immunity. The public health objective should be to prevent infectious disease related deaths or life-long morbidity (e.g. leg paralysis from poliomyelitis). Infection itself, as long as it results in asymptomatic sequelae, is beneficial. The benefits of injecting kids with vaccines in disease outbreak areas to produce planned rather than random antibody production are over-exaggerated. Silent carriers of disease during the infectious stage may actually explain why outbreaks are occurring in recently vaccinated populations. This whole over-commercialized public health effort is a sham.

8. There appear to be unreported foodborne enterovirus outbreaks that are not being pursued by public health authorities. Enteroviruses are commonly harbored in foods. Many foodborne viral diseases are not recognized as either foodborne or caused by viruses. It appears many cases of enterovirus, which produce similar symptoms to influenza, are being lumped into statistical compilations of the flu to artificially create the impression there is a dangerous flu outbreak in process and vaccination is necessary. Physicians should distribute information sheets to their patients to help them determine whether they have a cold, the flu or a foodborne enterovirus. About 67% of foodborne illness is of viral origin.

9. The vaccine industry has literally reached a point of diminishing returns if not impracticality. It can’t possibly continue to produce more and more vaccines for each and every bacterial and viral strain. For example, it is not practical to develop vaccines against
all 60 types of enteroviruses. Vaccines cannot possibly provide immunity against all 23 strains of human papilloma virus (only 4 strains are address by the current Gardasil vaccine). By creating new recombinant or synthetic vaccines, life-long immunity has been traded for shortened immunity. This has resulted in the quest to utilize even stronger and more toxic adjuvants to provoke a stronger immune response. It would be better to prevent foodborne enteroviral infections before they require a physician’s care or hospitalization. In that regard, garlic and aloe vera appear to be superior to drugs at exhibiting anti-enteroviral activity.\textsuperscript{208,209}

10. What if public policy for every child undergoing vaccination to be prescribed zinc supplements in a stepped-up dosage over a period of two weeks (let’s say 2.5 mg zinc tablets starting with 1 tablet and working up to 6 tablets daily so as not to provoke excessive metallothioneins that binds up the zinc)? What if zinc release agents were also provided, like selenium and vitamin B6?

11. The practice of inoculating pre-term newborns of low-birth weight should be rethought. Low birth weight correlates with a small thymus gland.

12. The ~6-month of life time point is a critical period where the provision of zinc from mother’s breast milk cannot adequately supply enough zinc, a time period when the thymus gland begins to shrink. The intake of greater amounts of zinc by breast-feeding mothers or provision of supplemental zinc directly to the suckling infant should be explored.

13. Prenatal formulas that provide hefty doses of calcium and iron may impair zinc absorption. There is need to provide ample amounts of zinc in ratios that compete with levels of calcium or iron that block zinc absorption. Formulators should think of
separate zinc formulas with metallothioneins releasing co-factors such as selenium and vitamin B6. Clinicians must gain a greater understanding of zinc binding to metallothioneins. More zinc activates the production of more zinc-binding metallothionein which can result in lower blood serum zinc concentrations.

Prenatal dietary supplements need to be re-formulated to provide zinc in adequate doses to be absorbed in the face of interference from calcium and iron. Possibly separate zinc supplements with co-factors need to be taken at a different time apart from calcium and iron-based prenatal formulas.

14. The denial that vaccines cause autism needs to be carefully scrutinized. Not only because vaccine induced infections and fevers simultaneously also inject heavy metals but because a fever may cause a vaccinated child or adult to use acetaminophen which is associated with autism. There may be an indirect link. Furthermore, depending upon when a heavy metal was injected via vaccination, different life-long symptoms may be experienced. An injection of heavy metals in the first six months of life may result in severe autism, whereas later in life milder symptoms of language and speech delay and dyslexia may be induced.

15. There ARE contrary reports that involve zinc supplementation and immunity afforded by vaccines. But some of these studies involved obvious overdoses of zinc (400 mg/day and 120 mg after kidney dialysis sessions). mega-dose zinc, as mentioned earlier in this report, may cause zinc to be strongly bound to metallothionein rendering it unavailable. Ineffectively low doses (e.g. 10 mg) may also lead to failed zinc studies. Or both ineffective low doses and obvious mega doses used in the same study involving older adults who likely were unable to absorb zinc due to lack of stomach acid came to the conclusion that neither dose was effective. Additionally there may be
inherent flaws in the studies themselves. For example, in one study 20% of older adults were found to be zinc deficient (below 70 micrograms/deciliter in blood serum) but that doesn’t mean those subjects who were deemed to be zinc adequate were marginally deficient and could mount up an immune response any better than the zinc deficient individuals.

Furthermore, zinc deprivation during gestation has been shown to result in persistent immunodeficiency over three succeeding generations of offspring in lab animals. Epigenetic imprinting is believed to be involved.

16. Given that most zinc-adequate individuals will be able to produce their own antibodies upon exposure to infectious diseases and remain asymptomatic, this fact explains so-called herd immunity. The term “herd immunity” was first published in 1923, years prior to any commercialized vaccine.

In 1933 Dr. Arthur Hedrich maintained epidemics only occurred when less than 68% of children had developed natural immunity to the measles. Obviously, some children Hedrich observed never developed symptoms of infectious disease. When a majority developed natural immunity the epidemic was halted.

Herd immunity as initially described had nothing to do with vaccination. Herd immunity described a population where a majority were infected, developed natural antibodies and lifelong immunity and stopped the infection from spreading further. Immunologists later twisted Dr. Hedrich’s 68% to establish a goal of 95% vaccination rates.

17. Just how will pro-vaccine advocates deal with an authoritative report like this? So far, anti-vaccine science has been subject to ridicule, criticized for endangering lives, and said
to be pseudoscience. More than 350 organizations have lined up against a safety review of vaccines and have expressed “unequivocal support for the safety of vaccines.”

Yet the scientific underpinnings of vaccination are built on a narrow set of statistics that does not reveal that most healthy children and adults, particularly those individuals whose intake and bioavailability of zinc is adequate, are largely asymptomatic whether they be infected via vaccination or by natural transmission. The safest vaccine is one that doesn’t need to be used.

Pro-vaccine forces are so camped in their positions, falsely believing only they hold high scientific ground, with physicians steeped in a drug and vaccine culture that shuns nutritional therapy, that opinions and practices are unlikely to change. The banner for immunotherapy will likely have to be carried by concerned mothers who have the gumption to stand up to physicians and the entire vaccine industry on behalf of their children’s health and safety.
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