



Six Modern Crises Endangering Childhood Health:

...and what *you* can do to combat them

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As both an integrative doctor and a father, it goes without saying that I have a deeply vested interest in the health of this nation's children—and most especially, in combating the many modern threats that have emerged to endanger this young and vulnerable population.

Whether it's the devastating and ever-controversial autism epidemic, or the growing crisis of obesity and type 2 diabetes among our youth, the challenges confronting the health of our children have skyrocketed in recent decades. The good news, however, is that we are not powerless against them—and in many cases, as parents, we are the best hope our children have for a long, healthy, and vibrant future.

That's why I have prepared this report for you: to expose six of the most pressing health concerns undermining childhood health, and to offer you real-life solutions in the effort to ensure that your children have the tools they need to thrive both physically and psychologically throughout their most tender, formative years.

Happy, healthy children grow to become happy, healthy adults—and it's never too early for a parent to be building these critical foundations. That's why I'd like to begin by addressing one of the biggest challenges to childhood health—one that arises before your child is even born.

Crisis #1: Heavy Metal Toxicity and the Developing Embryo

We live in an era where many people are afraid to get sick or to have a cold—we simply don't have the time to rest. Acute infections such as colds, however, allow the body to do just that—to discharge and rest, and to allow us the critical down time that we so much need. Instead of letting ourselves slow down and take time to recuperate, the modern solution for this “problem” is to vaccinate. While some vaccines are truly lifesaving, many are used for convenience, without enough data about their long-term safety. Here in California, a troubling decision was made in 2006 to temporarily rescind a law that bans the use of mercury containing Thimerosal in flu vaccine—putting pregnant women and children under the age of three at an unnecessary health risk. Insufficient quantities of flu vaccines free of Thimerosal were to blame—and as such, the state decided to allow the risk of such mercury-laden vaccines to be injected into the most fragile and delicate members of our society.

Mercury can be classified as inorganic (also known as metallic or elemental) or as organic which means it is in a more biologically reactive and chemically complex state. Both are potentially dangerous: The vapor caused by inorganic mercury, for example, is a concern in dental amalgams. But the organic mercury forms such as methyl mercury found in fish and ethyl mercury found in the vaccine preservative Thimerosal, are considered more dangerous because of their reactive state. Organic mercury can more easily penetrate into the brain, becoming even more reactive as a mercuric salt, which is oxidized mercury that combines with other elements to create salt forms.

Ultimately, all forms of mercury pose a health concern that the public needs to be both aware of and concerned about. But to understand the particular danger posed to expecting mothers, consider the following statement from a U.S. Geologic Survey (www.usgs.gov/themes/factsheet/146-00):

“The toxic effects of mercury depend on its chemical form and the route of exposure. Methyl mercury [CH₃Hg] is the most toxic form; however, the ethyl mercury found in Thimerosal is also toxic. Mercury affects the immune system, alters genetic and enzyme systems, and damages the nervous system. This includes coordination and the senses of touch, taste, and sight. Methyl mercury is particularly damaging to developing embryos, which are five to ten times more sensitive to effects of mercury than adults.”

Dietary exposure

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Most people are exposed to methyl mercury almost entirely by eating contaminated seafood. The National Research Council, in its 2000 report on the toxicological effects of methyl mercury, pointed out that “the population at highest risk is the offspring of women who consume large amounts of fish and seafood.”

The report went on to estimate that more than 60,000 children are born each year at risk of adverse neurodevelopmental effects due to in-utero exposure to methyl mercury. In some states, pregnant women are close to the safety limit in the amount of environmental mercury exposure they receive alone, so eating just a few servings of seafood during pregnancy can be very hazardous to the embryo. The National Oceanographic and Atmospheric Association, contends that “nearly all fish contain trace amounts of methyl mercury.”

The Food and Drug Administration (FDA) advises that pregnant women, women who may become pregnant, nursing mothers, and young children should avoid eating shark, swordfish, king mackerel, and tilefish entirely. Albacore tuna should be limited to 6 ounces (one meal) per week. Canned light tuna, shrimp, salmon, pollock, and catfish should be limited to 12 ounces per week.

But some doctors, including myself, question the significant risk that such lenient guidelines allow for. In its 1997 Mercury Study Report to Congress, the U.S. Environmental Protection Agency (EPA) concluded that mercury also may pose a risk to some adults, as well as wildlife populations that consume large amounts of fish contaminated with mercury. The World Health Organization has publicly stated that there is *no* safe amount of mercury exposure that can be tolerated by the human body.

Pesticide exposure

Another risk to developing embryos stems from low-dose exposures to pesticides. A study addressing this risk was published in the May 2004 issue of the journal *Environmental Health Perspectives*. Researchers concluded that low-dose exposures to agricultural and lawn care pesticides may cause injury to developing embryos before a pregnancy is even noticed.

Lead author Anne Greenlee, Ph.D. said: "In research conducted with mouse embryos, injury was observed during laboratory studies with a variety of agrochemicals and lawn care products, such as weed and insect killers and fertilizers, at concentrations previously assumed to be without adverse health consequences for humans." Types of injury observed included slowed embryonic development and reductions in the number of cells comprising the embryo, both of which may contribute to implantation failures and lengthening in time needed to achieve pregnancy.

“Since it is impossible to define precisely the amount of chemical(s) dangerous to an individual's reproductive health, a cautious approach seems best,” Greenlee said. The study was conducted at Marshfield Clinic Research Foundation (MCRF) in Marshfield, Wisconsin.

Greenlee said her lab conducted the study because little is known about residential use of pesticides and their possible effects on embryonic development in the first few days of pregnancy. The study used mouse embryos to model the possible human effects (as embryos of different animal species react similarly at this early stage of development) and looked at six herbicides commonly used in residential applications.

Additional research published by Greenlee in the July 2003 issue of the journal *Epidemiology* showed that women who mix and apply pesticides or fungicides in the two-year period before trying to conceive *significantly* increase their chances of infertility. The study showed that infertile women

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were 27 times more likely to have mixed and applied pesticides than those who had become pregnant.

Vaccination exposure

As mentioned earlier, another major source of fetal risk is the organometallic compound Thimerosal, used commonly worldwide since the early 1930s as a preservative in such things as vaccines, cosmetics, eye drops, contact lens solutions, tattoo ink, etc.

The use of Thimerosal has recently become more controversial due to concerns about the potential neurotoxic properties of the mercury-containing compound, and its potential connection to autism. While Thimerosal contains ethyl mercury and not methyl mercury, concerns were nevertheless raised more than a decade ago about exposure to mercury in vaccines. This was based on the fact that the cumulative amount of mercury in the infant immunization schedule potentially exceeded the recommended threshold set by one of the United States government agencies for methyl mercury. Thimerosal is the most common preservative used in vaccines that are marketed in the United States. It is used to help prevent a vaccine from spoiling and is *not* a necessary component. A vaccine packaged in single dose vials has no need for Thimerosal. The addition of this preservative seems to stem instead from increased margins and profitability to the manufacturers of the vaccines—multiple doses in a single vial are far more cost effective from a producer's vantage point than numerous single dose vials. Even more shocking, there is mounting evidence that there was knowledge of the dangers of adding Thimerosal to vaccines when researchers began asking questions in the early 1970s. By 1992, the preservative had been removed from pet vaccines and contact lens solutions because of the known risks. Yet childhood vaccines continued to use this substance for several more years. During the 1990s, some *40 million* children were vaccinated and the number of Thimerosal-containing vaccines given to children nearly tripled.

Thimerosal was removed from most vaccines after a 1999 recommendation by the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration. On July 7, 1999, the American Academy of Pediatrics (AAP) issued with the US Public Health Service (USPHS) a joint statement alerting clinicians and the public of concern about Thimerosal, citing the compound ethyl mercury as a point of primary concern. In 2000, the Food and Drug Administration suggested that some infants, depending on which vaccines they receive and the timing of those vaccines, may be exposed to levels of ethyl mercury from vaccines that could exceed the EPA guidelines established for the intake of methyl mercury from the environment.

Symptoms of mercury toxicity in young children are extremely similar to those of autism. A one-year-old child, receiving the government mandated vaccines under the standard immunization schedule, often received four to six shots during one doctor visit. Consequently, the child would be injected over time with as much as 40 times the amount of mercury considered to be safe.

With this growing body of evidence, I think that the case is clear that mercury and pesticide exposure pose a serious threat, not only to a woman trying to conceive, but also to a pregnant woman and her embryo. By spring of 2006, seven states including California had passed restrictions on Thimerosal in vaccines. Effective July 1 of that year, pregnant women and children younger than 3 years old in California could be given only mercury-free vaccines, or those containing trace levels.

Unfortunately, however, flu vaccine maker Sanofi Pasteur's partial shipments of that preservative-free formulation and its lack of adequate supplies prompted the state to temporarily exempt health professionals who wanted to immunize young patients and expectant mothers against influenza. While I do appreciate that the lifting of the ban in California on the use of this preservative was temporary in nature, it was nevertheless dangerous—and the fact remains that most flu vaccines still contain Thimerosal and not all states have the benefit of such a ban.

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I know that you must weigh the risk of contracting the flu versus the risk of Thimerosal in a vaccination that you may receive. All I ask, however, is that proper education be provided for those who may not understand these risks. As an integrative physician, I encourage you to weigh all of your options fully, and demand that your caregiver provide you with the caliber of information you need to make your choice a truly informed one.

Crisis #2: The autism controversy continues

As we examine the dangers of heavy metal exposure, and particularly exposure through childhood vaccines, I would like to address an issue that deeply concerns me as a practitioner: The rising autism epidemic in this country. While autism is considered a multi-factorial disease, mercury has most certainly been implicated as a possible causative agent.

The Autism Research Institute is finding that mercury detoxification is a successful treatment for autistic symptoms and is working hard to develop protocols for practitioners. I enthusiastically applaud their efforts, as my own concern for children and people impacted by biotoxins and heavy metals has led me to research and refine the heavy metal detoxification protocols I use in my private practice. Since the 1970's the rate of children with autism has increased significantly, and between 1989 and 2003, there has been an enormous spike in these numbers. But as I mentioned, no clear definite cause has been identified despite the many theories circulating in the conventional and alternative medical worlds.

Autism is a complex disorder affecting a person's ability to communicate and socialize with others, with many autism patients engaging in repetitive or obsessive behavior. Depending upon the severity of the diagnosis, many of these children are unable to perform the basic functions or pastimes that their peers engage in on a daily basis. One particularly extreme case comes to my mind, the story of one woman I know who gave birth to twins weighing no more than 2 pounds in the late 70s. Shortly thereafter, her surviving child was not only rendered blind by the oxygen issues in the incubators that occurred at that time but was also diagnosed as autistic within the first year.

For the duration of his life, her child was never able to feed or dress himself as most children learn to do early in life. Nor was he able to integrate into an educational system that would allow him to lead a normal and productive life. The stories of his repetitive and often painful obsessive behavior are a testament to the strength of this family, and to all families that endure this reality. I commend their efforts and admire their perseverance and strength.

The vaccination link

For parents who question the safety of current vaccination protocols, this struggle to obtain accurate information about the possible risks and side effects of vaccines will remain a challenge as doctors, government and drug companies push for increased vaccination schedules.

Sadly, the past two years have introduced some stirring setbacks for anti-vaccine advocates: In February 2009, news broke that Andrew Wakefield, the author of one of the most compelling studies linking childhood MMR vaccination with the onset of autistic symptoms (published in *The Lancet* back in 1998) may have fixed many of his findings. Shortly after, we learned that a Federal court (as part of the Omnibus Autism Proceeding, or OAP, begun in 2002 to address the cases of thousands of families seeking compensation from the federal vaccine injury fund) rejected the claims of three parents who believe that the MMR shot, along with mercury-derived vaccine preservatives, contributed to their child's autism.

Recent months have delivered more bad news: As part of a second hearing, the same judges ruled

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against three more families, all of whom claimed that their children's autism was caused by the mercury-derived vaccine additive Thimerosal. The message was crystal clear: Families may not be compensated for any purported connection between current vaccine protocols and autism because, as far as this panel is concerned, no such connection exists.

While disheartening, this hardly comes as a big surprise. In the words of Rebecca Estep, of The Coalition for Vaccine Safety: "Government attorneys defend a government program using government-funded science before government judges. Where's the justice in that?" A truly impartial assessment of the evidence against vaccines seems unlikely in a forum like the OAP, to say the least. There is, however, still hope. In a separate court ruling back in March 2008, one federal court conceded that standard vaccination practices contributed to the development of autism in nine-year-old Hannah Poling. While failing to admit to a clear-cut link, the government nevertheless offered the Poling family compensation, citing that a pre-existing mitochondrial disorder that predisposed the toddler to autism was "significantly aggravated" by the immunization shots she received at nineteen months.

If the Poling case isn't reason enough to continue to investigate a potential link between vaccines and autism, you need only consider recent statistical data for further evidence.

Until about 1989, pre-school children received only three vaccines (polio, DPT, MMR). By 1999, the CDC recommended a total of 22 vaccines to be given before children reach the first grade, including Hepatitis B, which is administered to newborns within the first 24 hours of birth. Many of these vaccines contained a mercury-derived preservative called Thimerosal, and in the 1990s approximately 40 million children were injected with mercury-containing vaccines.

The cumulative amount of mercury being given to children in these vaccines is an estimated 187 times the EPA daily exposure limit. At the same time, during the 1990s, the National Autism Foundation said the incidence of autism rose from 1 in 2,500 children to an alarming 1 in 166 children. Currently there are more than a half million children in the U.S. that have been diagnosed with autism.

In 1999, however, the American Academy of Pediatrics and U.S. Public Health Service recommended the removal of mercury-derived Thimerosal from most childhood vaccines as a precautionary measure. According to one research study, this change has had a huge impact.

An article in the March 10, 2006 issue of the Journal of American Physicians and Surgeons shows that since mercury was removed from childhood vaccines, the alarming increase in reported rates of autism and other neurological disorders in children dropped sharply by as much as 35 percent. California autism rates have fallen for the first time in over a decade.

This may speak to countrywide trends as well, according to new data compiled by the state Department of Developmental Services. California's autism reporting system is considered the best in the nation because of the guarantee for special education services for these children. The way in which it tracks autism rates is therefore considered a national indicator. This is promising news, however, there are still potential dangers posed by current vaccination practices.

Today, most newborns are bombarded with vaccines for health issues that pose little risk for the majority of children. I mentioned the hepatitis B vaccine for newborns as an example because a mother who is not a hepatitis B carrier or an intravenous drug user poses little risk to her newborn for Hepatitis B. The newborn's first potential exposure won't take place until later in life. Beyond a blood transfusion, such a risk is really non-existent until later lifestyle choices may place them at risk. And yet, this vaccine is still included as part of a standard immunization schedule for infants, without full knowledge as to the potential long-term effects of this kind of loading.

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Clearly, more needs to be done to provide education and empowerment to parents, so that they can ascertain the particular needs of their newborn and make educated decisions as to what their family requires.

That's why I'd like to urge you now to become familiar with the most current information about vaccines, and be aware that as a parent, you have choices in the vaccination process, such as opting for dead virus strains over live (as with the polio vaccine), or not grouping vaccinations together (like the MMR). Ultimately, you should know that you can request delayed or separate immunizations, or if you choose, minimal immunizations. No matter what pressure may be placed on you by doctors, drug companies, and society, the choice always rests with you and your personal philosophy.

Everyday toxins and autism

A recent study in the peer-reviewed medical journal, *Current Opinion in Pediatrics*, explored the connection between environmental toxins and autism. The study states: "Indirect evidence for an environmental contribution to autism comes from studies demonstrating the sensitivity of the developing brain to external exposures such as lead, ethyl alcohol and methyl mercury. But the most powerful proof-of-concept evidence derives from studies specifically linking autism to exposures in early pregnancy -- thalidomide, misoprostol, and valproic acid; maternal rubella infection; and the organophosphate insecticide, chlorpyrifos."

Author of the study, Dr. Philip J. Landrigan, professor of pediatrics at the Mount Sinai School of Medicine in New York, tested the hypothesis that environmental toxins could be damaging to the developing brain of a fetus, resulting in possible neurodevelopmental disorders. "The crux of this is brain development," he said. "If babies are exposed in the womb or shortly after birth to chemicals that interfere with brain development, the consequences last a lifetime."

Common, everyday toxins such as phthalates in shampoo, mercury and polychlorinated biphenyls (PCBs) from consumption of contaminated fish, perfluorinated acids (PFAs) from non-stick coatings, polybrominated diphenyl ethers, the primary chemical found in flame retardants, and BPAs from plastic bottles, have been studied and may be "associated with measurable neonatal deficits." This toxic load in our bodies has not yet been determined as the sole reason for the rise in autism and certain cancers... but it is *certainly* cause for concern.

Ultimately, the dramatic and steady rise of autism cases can't all be linked back to genetics. As the study explains, "genetic factors—mutations, deletions, and copy number variants—are clearly implicated in causation of autism. However, they account for only a small fraction of cases, and do not easily explain key clinical and epidemiological features." In fact, about 25 percent of autism diagnoses are genetic. Researchers are concluding that environmental toxins must be studied as a valid variant in the autism mystery.

So what can you do to protect your family from this pervasive threat?

I am emphatic about reducing exposure to toxins as well as removing them from our bodies to ensure good health. That's why I have formulated two very effective products for this purpose of removal. The first works by supporting the systemic and gentle removal of toxic heavy metals, environmental toxins, and mold toxins, as well as promoting safe and effective chelation, *without* removing essential minerals or nutrients. This is a critical distinction, as many chelation formulas rid the body of beneficial minerals and nutrients, further burdening the body with stress.

My unique combination of modified citrus pectin and alginates from seaweed binds directly to toxins, preventing re-absorption or redistribution in the body. For additional critical detox support my second

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formula works in conjunction with the first; after an initial MCP/alginate compound use of at least one month, to release, bind and remove toxins that are concentrated in deeper tissue, while supporting the detoxification organs.

It is also important to use a water filter and to keep you and your family hydrated, as the body will use water to eliminate toxins through the urine. When possible, choose organic fruits and vegetables to avoid exposure to harmful pesticide residues, and shop for toiletries and cleaning products that are free from dangerous additives. (The Environmental Working Group offers a comprehensive database of common products with problematic ingredients at their website, www.ewg.org.)

Ultimately when it comes to keeping toxins out of your household—and out of your body—vigilance pays off, helping to ensure both your health and your child's health for years to come.

Crisis #3: ADHD drugs and their long term impact

In 2003, approximately 4.3 percent of children aged 4 to 17 years were reported to have been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and were taking medication for the disorder. Since then, criticism and debate has continued to rage over the issue of ADHD, much of which seems to center on whether ADHD is a valid mental disorder or not—despite the fact that, in January 2002, an “International Consensus Statement on ADHD” was signed by numerous doctors in the field of ADHD, proclaiming that ADHD is a valid medical disorder because “the scientific evidence indicating it is so is overwhelming.”

As of this date, a biological cause for ADHD has not been conclusively determined and there is no diagnostic test for ADHD. Diagnosis is made after the evaluation of symptoms using the criteria outlined by the Diagnostic & Statistical Manual for Mental Disorders (DSM-IV-TR). The prescribing of medication is contingent on ADHD being classified and regarded as a mental disorder.

Some contend ADHD's classification as a mental disorder is contentiously value-laden. Social critics point out our current educational system favors certain behaviors and abilities over others. Other critics question the ethics and appropriateness of giving behavior altering medications to children altogether, regardless of diagnosis. Experts in the field of mental health point out that many of the symptoms of ADHD can fall into the category of other disorders (such as Post Traumatic Stress). There is also concern that the diagnosis of ADHD can mask more taboo issues such as childhood sexual abuse, trauma, and neglect, since symptoms of these can be the same or similar to those of ADHD.

Some critics concede that ADHD is a genuine disorder, but express concern that many are misdiagnosed and/or prescribed medications unnecessarily. Some medical practitioners believe that ADHD, as a validly diagnosed disorder, can be treated more safely and effectively over the long term using alternatives to medication. Medical experts in favor of medication, however, argue that the benefits of medicating for this disorder far outweigh the consequences of not medicating.

The above summary of various arguments merely serves to point out how deceptively complex this issue is. All of this needs to be taken into consideration when determining the chronic nature and severity of the child's symptoms and deciding on a course of action and treatment. Medications often present a cost effective and convenient solution over the short term, but as is explicitly stated by the pharmaceutical companies themselves on drug labels, the long-term effects of ADHD drugs in children have not been well established or studied.

Drugs generally prescribed to treat ADHD are stimulant medications, such as amphetamines and

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methylphenidate. Most studies on ADHD drugs are to prove the short term effectiveness of the drugs, such as the elimination of symptoms and immediate results in areas such as behavior and academic performance. The long-term effectiveness of the following commonly prescribed brand names, however, has *not* been systematically evaluated in controlled trials longer than the durations indicated:

Adderall: 3 weeks

Concerta: 4 weeks

Daytrana: 7 weeks

Dexedrine: (no data)

Focalin: 6 weeks

Focalin XR: 7 weeks

Metadate CD: 3 weeks

Methylin: (no data)

Ritalin LA: 2 weeks

Strattera: 9 weeks.

While long-term studies on both effectiveness and side effects are lacking, enough adverse effects have been documented thus far to prompt the Food and Drug Administration to require ADHD Drug Manufacturers to notify patients about Cardiovascular Adverse Events and Psychiatric Adverse Events, as well as to list other warnings.

Due to the complexity of this issue, caution is needed when deciding on a course of treatment. Given the bewildering array of drug choices, lack of long-term studies on effectiveness and side effects, and the human fallibility and bias of experts, parents need to exercise healthy skepticism and play an active part in understanding their child's problems and not rely on one source of information.

ADHD drug labels now state, "Adequate diagnosis requires the use not only of medical but of special psychological, educational, and social resources. Learning may or may not be impaired. The diagnosis must be based upon a complete history and evaluation of the child and not solely on the presence of the required number of DSM-IV® characteristics." The labels also state that "drug treatment may not be indicated for all children with this syndrome."

I strongly advise you to read all label and medication guidelines of the ADHD drug that may apply to your child's situation. Labels and medication guidelines for commonly prescribed ADHD drug are available for viewing at the FDA's website. I also advise you to learn as much as possible on your own about ADHD—and the growing controversy surrounding it—whether or not you choose to pursue the route of pharmaceutical treatment.

To that end, I've included a summary of adverse events, warnings, and precautions associated with ADHD drugs below:

Serious Cardiovascular Events

Sudden death has been reported in children and adolescents with structural cardiac abnormalities or other serious heart problems in association with ADHD drug treatment at usual doses.

Hypertension and Other Cardiovascular Conditions

Stimulant medications cause a modest increase in average blood pressure and average heart rate and individuals may have larger increases.

Pre-Existing Psychosis

ADHD drugs may exacerbate symptoms of a pre-existing mental disorder.

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Bipolar Illness

ADHD drugs may exacerbate a pre-existing bi-polar illness.

Emergence of New Psychotic or Manic Symptoms

Symptoms such as hallucinations, delusional thinking, or mania in children and adolescents without prior history of psychotic illness or mania can be caused by stimulants at usual doses.

Aggression

Patients taking ADHD drugs need to be monitored for the appearance of or worsening of aggressive behavior or hostility.

Long-Term Suppression of Growth

While comprehensive research is still lacking, there are preliminary studies showing a potential link between ADHD drugs and the suppression of growth.

Seizures

As there is some risk of seizures with these medications, patients with a history of seizures should not take ADHD drugs.

Visual Disturbance

Difficulties with accommodation and blurring of vision have been reported.

Tics

Amphetamines can exacerbate motor and phonic tics and Tourette's syndrome.

Suicidal Ideation in Children and Adolescents (*documented thus far for only STRATTERA (atomoxetine) in short-term studies*)

Anyone considering the use of STRATTERA in a child or adolescent must balance this risk with the clinical need.

You can consult specific medication labels for more details—including documentation—beyond what's been covered in this overview. But the most important thing to remember is *never* to neglect your own common sense, instincts, and intuition about what would be the most loving and beneficial solution for your child in the long run.

Crisis #4: Video Games, television, and their effect on your children

In our technological age, excessive mass media consumption among our children has become an increasingly urgent problem—one that's left many parents to wonder how they can best monitor this activity, evaluate what is appropriate, and set proper limits. Unfortunately, these are all difficult questions, given the uniqueness of each child and the vast array of media and technology available. But a good place to start is with the most common media children have access to: video games and television.

Children—and especially teenagers—will often argue very convincingly that television and video games are not interfering with other aspects of their life, such as sleep, proper nutrition, exercise and school. Numerous studies, however, indicate otherwise, linking excessive media time to obesity, lack of fitness, increased likelihood to consume fast food and junk food, lower performance in school and lack of proper rest. In addition, violent content in media has been linked to increased aggression and social alienation.

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The trouble with video games

While studies seem to confirm that video games won't turn your children into criminals and violent offenders, a number of them have linked video games to the same negative effects of too much television. Some studies also seem to indicate a direct correlation between violent video games and negative behavior such as aggression, while other studies point to a negative effect only in children who are already predisposed to aggressive or problematic behavior—often children from troubled homes.

While video games are relatively new, they have been around long enough that the first and second generation video game players now have children of their own. The difference now is that there is a bewildering selection of video games on the market, and they are much more realistic and complex than any early video games of the past—add to this the proliferation of on-line role-playing games now played on the internet. All of these factors can make it difficult for you to judge the health of your child's exposure to this form of media.

For example, it's one thing to set time limits on video games, but what about deciding what types of video games are appropriate to play and what are not? In a Wired magazine editorial titled "You Grew Up Playing Shoot'em-Up Games. Why Can't Your Kids?" contributor Clive Thompson ponders this common parents' dilemma. In an informal survey, he sought the advice of "gamer" parents—that is people who grew up playing video games and now are parents themselves.

One suggestion is to treat content like it is a movie. If you wouldn't let your child watch the content in a movie, then it is not appropriate in a video game. Another suggestion is to disallow realistic combat and violence, but allow cartoon and/or fantasy versions of fighting. Another interesting rule of thumb cited was the "Lego Rule."

The Lego Company has a policy of not replicating 20th century weapons, but allows weapons, such as swords and alien laser guns, that fall into the realm of fantasy. Lego acknowledges that the good-guys-versus-bad-guys theme is common in children's play. Lego's spokesman Michael McNally states that this sort of combat "is at the root of children's play scenarios, and we believe is an important part of a child's exploration of the world," but that it is most appropriate to keep this combat within the fantasy realm.

Guidelines such as the ones above seem clear enough to follow—but given the massive supply of video games on the market, how does a parent determine content before purchase?

A good resource is the Entertainment Software Rating Board (ESRB). The ESRB is a non-profit, self-regulating agency established by the Entertainment Software Association that assigns computer and video game content ratings. On the ESRB website (www.esrb.org), most games and platforms are listed with ratings and a brief description of content.

Keeping tabs on television viewing

Television is easily the most accessible form of media to children—most families own at least one television, and many families own multiple television sets, a fact that has prompted the American Academy of Pediatrics (AAP) to establish firm guidelines for media viewing. The conclusion: The AAP has recommended that children's media time (this includes TV, videos, computer games, and video games) be limited to one to two hours a day. Children under two years of age should not be allowed any media time at all. (For more information on the AAP guidelines, visit www.aap.org.) Unfortunately, these healthy limits aren't always imposed, as evidenced by a study conducted to determine how AAP guidelines would be received and followed by a typical family. The average

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family in this study owned *four* television sets—and almost half of the families had a television set in the kitchen or dining room. Nearly two-thirds of the families allowed children to have television sets in their bedrooms—a point of particular concern, since parents are less able to monitor what the child is viewing and the time spent viewing.

Most of the children spent approximately three hours a day watching television. In general, parents had little knowledge of the negative effects of too much media viewing—and not surprisingly, one of the greatest difficulties in convincing parents of the need to limit television viewing in their children was their own heavy television viewing habits. It was a common practice to have television on as background noise during other activities such as eating. Another problem was the parents' use of television to occupy their children while they were busy themselves.

Unfortunately, the consequence of this national habit reaches much further than its psychological impact. There is little question that it is robbing US children of their physical health, as well. As part of a study recently published in the journal *Pediatrics*, researchers analyzed data on more than 6,000 children between the ages of one and 21. The purpose: to assess their levels of vitamin D—the life-saving “sunshine” vitamin that fights cancer, increases heart health, and stabilizes insulin sensitivity and blood sugar while boosting immunity, too.

It's fairly easy to see how deficient—or even *insufficient*—levels of this crucial nutrient could pave the way to some disastrous consequences. That's what made the results of this study so horrifying: As it turns out, *seven out of ten* American children—yes, that's *70 percent* of our young population—are dangerously short on vitamin D. As detailed by this new study, blood tests confirmed nine percent of the large sample of children as deficient in this vitamin—with an additional 61 percent confirmed as vitamin D insufficient.

If these results are a reliable indication, that means that chances are good that *your* child, grandchild, niece, or nephew is likely to be vitamin D insufficient, too... and to have the high blood pressure, low calcium levels, and low levels of health-sustaining HDL cholesterol to prove it.

While this news is indeed shocking, it's not especially surprising that children who are older, obese, and spend more than four hours a day watching TV, using computers, or playing video games—presumably *indoors*—are more likely to be deficient than those who spend regular amounts of time enjoying themselves outside.

So what can we do to protect our children... and to help to *stop* this deadly trend?

There's no question as to how important it is that parents limit media time (this includes television, DVDs, computer games, and video games) and limit exposure to violence. (A good resource for media content ratings is www.parentalguide.org.) The most effective way to monitor this media activity is to keep TV and other media out of the child's bedroom—a boundary that's generally more difficult to enforce with older children and teenagers, and a good reason to begin setting limits early. Perhaps the least intrusive way to monitor media activity is to make media a family activity, rather than an isolated, individual activity. Even better, spend some time as a family outdoors: Go on a hike, take a bike ride, or have a picnic together.

I realize that this is extremely challenging for many families, given business, schedule conflicts and varying tastes. That's why, at the very least, you should engage in a dialogue with your child about why the particular media is so appealing to him or her. Because it is clearly impossible to monitor everything that a child or teenager is exposed to (considering contact with peers and time spent outside the home), the most important skill that a parent can teach a child is to be thoughtful and critical of popular media in its many forms.

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Ultimately, it is never too late to start this dialogue or teach these skills to your children and teenagers... and the mere act of a parent paying attention and asking questions has been shown to positively affect children's choices and behavior.

Crisis #5: Childhood Obesity

There is a growing concern today that can potentially affect all of our children—all one need do is look at the data. The percentage of overweight children in the United States is growing at a rate that should alarm everyone, especially health care practitioners. There's no question by now that childhood obesity is a major health problem.

As defined by federal standards, approximately 30 percent of adults and 25 percent of children are considered obese today. The increase in this condition is resulting in an increase in the rate of diabetes. Type 1, or juvenile diabetes, is still the more common form—but the rapid increase of type 2 among the young population is nothing short of frightening. Type 2 diabetes affects 90 percent of the 18 million U.S. diabetics, but it is only recently that it has begun to show up in our children, with the most common diagnoses springing up during middle-to-late puberty.

Physicians fear that as our children become increasingly overweight and less active, even more incidences of this dangerous—and largely preventable—disease may begin to occur in younger pre-pubescent children.

The factors contributing to this shocking statistic are numerous. Children who are sedentary, overeat, and have a family history of diabetes are most at risk of contracting type 2 diabetes. Minority populations are also at especially high risk. But just as many of these influences are embedded in our modern culture: Children are simply spending too little time exercising and too much time in front of the TVs, computers, or video game consoles. As today's busy families have fewer free moments to prepare nutritious, home-cooked meals on a daily basis, fast food is sadly becoming a dinnertime staple.

But even those parents who provide a healthy lifestyle for their families (by choosing organic foods and limiting or eliminating fast foods and empty calories) still face serious challenges. It's impossible to eliminate the harm posed by the temptations and pressures facing our children—so it's imperative that education and support be provided to guide children to make healthy choices when they are not under the direction of their guardians. We must teach them to be active and thoughtful about their dietary and exercise habits.

Helping our children lead healthy lifestyles begins at home with parents, guardians, and authority figures leading by example and providing support with education on nutrition, fitness, and health, and with lots of love.

What can you do to protect your child?

There are things that you may need to change—whether or not your kids are overweight—unless you want them to become overweight adults. You don't have to make drastic, all-at-once diet and lifestyle changes, which most people can't keep up with anyway. But if you don't do anything today, there is a good chance that nothing is going to change and your overweight children will continue to become more overweight, putting them at a much higher risk of serious obesity related health problems.

We are the stewards of our children's health, and the primary role models for their development of good eating and self-care habits that they will carry into adulthood. We also set the tone and feeling surrounding food preparation and meals. As our children interact with the larger world in daycare and

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school settings, they are influenced by what is provided and modeled to them.

Consider becoming active as a parent advocate in your child's school. There is a growing movement to provide healthier school lunches, school gardening projects, cooking modules, and other ways of increasing awareness and providing healthy food modeling to students. Many resources exist on-online (such as www.lunchlessons.org) where you can support and learn more about these movements.

As we embark on healthy meal planning and preparation, it is important to consider, not only food choices for our children, but the larger picture of where and how foods are grown, whether they are in season, imported or stored in a warehouse, canned, frozen, or fresh from the farm, from organic sources, or conventionally grown.

Many studies have been done world-wide on differences between organic and non-organic foods. These studies have shown that organic fruits and vegetables are not only free of pesticides, they also have significantly more vitamins and minerals, particularly the protective antioxidants. Grass-fed beef has been found to have less contamination with dangerous bacteria. In addition, organic dairy and meats are free of pesticides, hormones, and antibiotic residues.

These types of chemicals, which tend to be fat soluble, are stored in the fat of animals, which is then consumed in meat and dairy products. The toxins are then stored in our children's tissues and accumulate as they grow older. They can also be passed to our infants in breast milk. Some toxins are hormone mimics, and may disrupt the hormone balance of our growing children. Buying organic whenever possible protects our children from accumulating toxins and provides more vitamins and minerals than conventionally grown foods.

You can refer to the Organic Trade Association website (www.ota.com) for specific studies on organic vs. conventionally grown foods. Also view the Pesticide Education Center website for more information and ways to reduce pesticide exposure in your home environment as well as your food consumption.

Tips for wise shopping and healthier food choices

Shop the "outside ring" of the supermarket. There you will find fresh produce, meats and dairy. Vary your fare, picking different fruits and vegetables, looking for color, variety, and freshness. Color correlates with nutrient value. Add colored berries, yellow and orange vegetables, and leafy greens to your choices.

Become a label reader. Bear in mind that ingredients are listed in order of quantity. Avoid "partially hydrogenated" fats, corn syrup, white flour, white sugar, chemicals, preservatives and additives. Buy organic as much as possible and choose fruits and vegetables in season. Include the many varieties of beans, and organic nuts and seeds, which provide alternate sources of protein, healthy fats, vitamins and minerals to your child's diet, and reduce overdependence on animal products with their higher saturated fat and cholesterol content.

Familiarize yourself with the Glycemic Index, a rating of foods according to how fast they turn into sugar in the body. (You can visit www.glycemicindex.com for a detailed list of values.) Eating at 55 or lower on the index provides food choices that keep blood sugar levels more stable. The goal is to keep blood sugar levels from spiking up and down during the day, which creates a pattern that can lead to insulin resistance, obesity, Type II diabetes, and cravings for "empty calorie" high sugar foods. Provide sources of protein at each meal. Primary protein sources include nuts, seeds, beans, meats, fish, dairy products, eggs. This provides a good foundation for maintaining level blood sugar between

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meals and reduces cravings for “empty” or nutrient poor high calorie snacks.

Make sure your children have a good breakfast. Breakfast sets the tone for the day—don’t let your children run out the door and skip this important meal. Avoid cereals with processed grains and sweeteners. Adding a few raisins is a good way to sweeten whole grain cereal and provide extra nutrients. Eggs, yogurt or cottage cheese, or a “smoothie” with some protein powder, berries and yogurt can be a quick and healthful addition to breakfast.

Use healthy fats and oils. Coconut oil is healthy and heat stable, a good choice for use in cooking. Olive oil is also a very healthy choice. Avoid overuse of vegetable oils. Avoid fried foods, including chips.

Try to include fish in your menu choices, which is an excellent source of the vital Omega-3 oils that are essential for brain development. Good sources are Wild Alaskan salmon and sardines—but avoid farmed fish, and large fatty fish, as the mercury content can be high. Toxic metals and pesticides are stored in fat. So a rule of thumb is the smaller the fish, the lower the toxin level. Tuna can contain significant amounts of mercury, so choose the smaller types of tuna, such as yellow fin. Ask your grocer or look online for low mercury sources of fish. Another alternative is to give your child fish oil, krill oil, or algae-derived oil capsules, with guaranteed mercury free labeling—this can provide the important oils without concern for the toxin content of commercial fish.

Create a relaxed, humorous, intimate family time around at least one meal of the day. Slowing down, sharing family time without argument or tension, laughing together, and enjoying good food are great gifts to your children and your family during this day and age of overly busy lives.

Invest in a high speed quality blender. It’s easy to create healthful smoothies, and delicious frozen fruit “ice cream” as an in-between meal snack or healthful desert. You can “hide” healthy “booster” foods like rice protein powder, flax seeds and flax oil, sunflower seeds, lecithin, and “green powders” that make a smoothie into a powerhouse of healthy nutrients for your children.

Have healthy snacks available. Fresh fruit, nuts and seeds, trail mix, hummus with vegetable sticks, air popped popcorn, raisins and dried figs, apples, and almond butter all provide tasty alternatives to chips and cookies. Encourage consumption of whole fruits, avoiding fruit juices with their high sugar content.

Make one day a week a “treat day”. Have a family outing to the ice cream parlor, or serve a special desert. This sets a pattern of having these types of delicious but “empty calorie” foods not as the daily fare, but included in the context of healthy eating and celebration. Rather than depriving your children of enjoyment, you are creating a habit of putting these types of foods in a healthy context, instead of having them always available for casual eating on a daily basis. It is what you and your children eat 90 percent of the time that really makes a difference in their health.

Make sure your child gets an adequate supply of the basic components that make up a healthy diet. The American Heart Association recommends this eating pattern for families:

- Energy (calories) should be adequate to support growth and development and to reach or maintain desirable body weight.
- Eat foods low in saturated fat, trans fat, cholesterol, salt (sodium), and added sugars.
- Keep total fat intake between 30 to 35 percent of calories for children 2 to 3 years of age and between 25 to 35 percent of calories for children and adolescents 4 to 18 years of age, with most fats coming

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from sources of polyunsaturated and monounsaturated fatty acids, such as fish, nuts and vegetable oils.

- Choose a variety of foods to get enough carbohydrates, protein and other nutrients.
- Eat only enough calories to maintain a healthy weight for your height and build. Be physically active for at least 30 minutes a day.
- Serve whole-grain breads and cereals rather than refined grain products. Look for “whole grain” as the first ingredient on the food label and make at least half your grain servings whole grain. Recommended grain intake ranges from 2 ounces/day for a one-year-old to 7 oz./day for a 14–18-year-old boy.
- Serve a variety of fruits and vegetables daily, while limiting juice intake. Each meal should contain at least one fruit or vegetable. Children’s recommended fruit intake ranges from one cup/day, between ages 1 and 3, to 2 cups for a 14–18-year old boy. Recommended vegetable intake ranges from $\frac{3}{4}$ cup a day at age one to 3 cups for a 14–18-year-old boy.
- Introduce and regularly serve fish as an entrée. Avoid commercially fried fish.
- Serve nonfat and low-fat dairy foods. From ages 1–8, children need 2 cups of milk or its equivalent each day. Children ages 9–18 need 3 cups.
- Don’t overfeed. Estimated calories needed by children range from 900/day for a 1-year-old to 1,800 for a 14–18-year-old girl and 2,200 for a 14–18-year-old boy.

This eating pattern supports a child's normal growth and development. It provides enough total energy and meets or exceeds the recommended daily allowances for all nutrients for children and adolescents, including iron and calcium.

Also be aware of, and watch for food reactions—food allergies and sensitivities are common in children and may manifest in various symptoms, from an obvious anaphylactic reaction (sudden difficulty breathing, which is life-threatening), to subtler symptoms including rashes, elevated heart rate, diarrhea or constipation, irritability or hyperactivity, or headaches.

Sensitivities are common to such foods as peanuts, wheat, and other gluten containing grains such as barley, rye, oats (often found as an additive in many pre-prepared foods—read labels!), dairy, soy, egg, shellfish, strawberries and others. Sometimes symptoms may not become evident for a day or two following ingestion of an offending food.

Try eliminating a suspected food for a week and adding back while watching for symptoms. Ironically, a food that you have a craving for is often the very food you are sensitive to. An integrative medical practitioner can provide testing and guidance in uncovering food sensitivities, which can make a tremendous difference in your child’s health.

As parents, we will find as we adjust the diets of our children that the results will be reflected in all other aspects of the child as well: self-esteem will improve, energy levels will increase, sleep will improve and health will be optimized. It is imperative that we work to actively function as our children’s advocates, helping them to develop healthy eating habits that will last a lifetime. The work we do with our children will continue to unfold in their good health, as well as the future health of our grandchildren.

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Crisis #6: Stress and the developing child

More and more variables are coming into contact with our children and adversely affecting their healthy development—and one of these critical issues facing many children and adolescents today is anxiety and stress.

Most stress faced by children is natural and to be expected, and is an important part of the learning process that will define your child. But while children will naturally have some stressful events as a matter of course and are able to adapt to them with relative ease, other events may greatly threaten their sense of well-being, and can be of greater concern. One of the biggest problems here is that children are not really allowed to be children anymore, and have been bombarded with enormous amounts of information and stress that only adults were dealing with 20 – 30 years ago. The normal developmental cycles of children, as outlined in Traditional Chinese medical philosophy, have been disrupted by our obsession with the age of technology and information, disconnecting children from the natural rhythms of nature and the five senses, which are crucial to healthy development. As children are swept up in the shuffle and momentum of our fast paced society, we see a greater number of health problems in our children that were previously only known among adults, such as obesity, type 2 diabetes, hypertension, and great increases in stress and depression.

Stress on a young child can manifest in many forms that may pose a challenge. It is to these stressors that a child must respond and adapt. Significant events, especially those that alter a child's immediate environment such as a divorce or death, can have long-lasting effects on a child's psychological health and well-being. If stress is too intense or prolonged, it can sometimes result in negative effects, hindering the child's development. An array of concurrent stressors can even result in more serious physical illness.

Aside from helping to minimize stress in our youth by giving them the space and time to simply be children, the challenge we face as parents is to help a child encountering stress to face and process the stressor in a healthy and productive way. The stress can then become a healthy defining experience rather than one that will negatively alter the growth of the developing child or teen.

A child is in need of basic coping skills that as parents we can help to foster. A teen is most in need of support and affirmation so that they may develop into young adults who are fully prepared to address the continued stressors they will encounter in their life's work.

What Can Parents Do?

The first and most obvious way that you can help your child cope with stress is communication. Talk to your child—ask them about their day, what they are studying at school, and about their friendships. You will be amazed at the amount that your child will actually reveal to an adult who they feel safe with. It may be slow going at first, but perseverance is key. Stick with it and let them know that you are truly interested. The investment will not only help your child, but also assists to set up patterns for your child so one day they will be an attentive parent as well.

Stress can often make one feel that a solution is impossible. Help your child to see that nothing is insurmountable. This will pay dividends in their teen years when things may seem to be all the more overwhelming. When your child feels very full with their life, take a break together. Clear your minds and return to the issue when your child is fresh, and help them find proactive solutions to address the issue. If it's a concern that they must perform in front of others, for example, you can set up a small preview audience to help them get over stage fright. If it's a book report, make a day of lunch and going to the library.

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Physical activities offer a particularly good way to bond and unwind, so take some time to plan exercise. Take your child on a walk, take ten minutes to perform yoga, or simply play ball with your child. Exercise is a tremendous outlet for stress and will help alleviate much of the anxiety your child is feeling.

It also helps to take a closer look at your child's diet. What are they eating? Are they eating for health or are they eating sugary snacks that will temporarily elevate their system only to send it crashing down later? Make nutritious snacks readily available and you will find over time that it will not only help your child's eating habits but assist their body to better deal with stress.

Helping your child to anticipate stressful events can foster critical coping skills, as well. Adults can prepare children by increasing their understanding of the upcoming event and reducing its stressful impact. Help your child to learn a variety of coping strategies such as asking for help if someone is teasing them, as well as speaking up by telling them "I don't like it"—or even quite simply walking away. Coping strategies help children feel more effective in stressful situations.

Open communication and self-awareness is absolutely essential to handling stress both as a child and well into adulthood. Help your child to recognize, name, accept, and express their feelings appropriately. Practice positive self-talk skills with your child, such as "I'll really try" and "I think I can do this" to help in dealing with stress.

Finally, teach your children constructive relaxation techniques. Consider suggesting to a child such things as taking three deep breaths, counting backwards, tensing and releasing their muscles, visualizing a favorite calming place or scenario, and continuing slow, deep breathing.

As parents and as a community, it will greatly benefit us to identify with our children's experiences and work to assist them in developing tools with which they can minimize and adapt to their stressors in a positive and healthy manner. Through education and most importantly communication, parents can understand what is confronting their children and know how best to support them, ultimately transforming stressful and unhealthy situations into positive learning experiences. It's never too early or too late to lay the foundations of support and guidance for our children and teens, and to aid them during their developmental stages in concert with the cycles and rhythms of our natural world. We will all benefit from this collective effort as the strength and happiness of our families and communities will continue to grow with each healthy choice along the way.

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Dr. Isaac Eliaz, a pioneer in the field of integrative medicine since the early 1980's, is a respected author, lecturer, researcher, product formulator and clinical practitioner.

Dr. Eliaz is a frequent guest lecturer on integrative medical approaches to health, immune enhancement, and cancer prevention and treatment. He has also taught several courses on Traditional Chinese Medicine for medical doctors and licensed acupuncturists. As an innovative formulator of dietary supplements, Dr. Eliaz developed and currently holds the patents for several of his unique herbal formulations.

In order to substantiate nutritional approaches to health, Dr. Eliaz regularly participates in clinical studies and has been published in well-recognized, peer-reviewed journals. In addition, many of Dr. Eliaz' formulations have been submitted for validation in independent human clinical studies whose results have been published in peer-reviewed journals.

Dr. Eliaz continually studies, integrates and applies the best of health practices of both western medicine and complementary and alternative approaches. A native of Israel, Dr. Eliaz lived in the Far East and in Latin America before returning to study medicine at Tel Aviv University. While studying for his degree, Dr. Eliaz' interest turned towards the role of alternative therapies in daily health. This led to his eventual research and personal experience with yoga, shiatsu, and acupuncture as therapeutic modalities.

After graduating medical school in 1986, Dr. Eliaz established a highly successful clinical practice in Tel Aviv, utilizing his training in both western and eastern medicine. While maintaining a clinical practice, Dr. Eliaz pursued graduate studies in clinical herbology at Hebrew University of Jerusalem and classical Chinese medicine with teachers in Israel and Europe.

In 1989 Dr. Eliaz moved to the San Francisco Bay area in order to continue his studies at the American College of Traditional Chinese Medicine, earning a Master of Science degree in 1991. During this time he also energetically sought-out leading practitioners of alternative medicine to broaden his knowledge and experience. Since 1991 Dr. Eliaz has maintained a busy private practice in northern California that focuses primarily on integrative, holistic protocols for cancer patients.

The guiding mission of Dr. Eliaz' professional life is achieving the integration and synergy of multiple healing modalities from both ancient and modern paradigms into a holistic practice of medicine. It is the heart of his clinical practice, of his research, and a mission that he communicates with great passion and clarity

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