The new paradigm of autism proposes the following: autism is not a strictly inherited disease; environmental factors contribute to its incidence; and dietary interventions, detoxification strategies and other treatments may contribute to amelioration or even recovery.

We know that the scientific and public response to the new paradigm of autism has been mixed. There are dedicated scientists and clinicians who continue to insist that environment plays no role in autism. They believe, in principle, that dietary modifications and other proposed medical treatments cannot contribute to amelioration or cure.

On the other side are dedicated scientists, clinicians and parents who are equally certain that the new paradigm of autism is true with respect to etiology, treatment and prevention.

In the middle is a wide spectrum of people who are open to the new paradigm of autism hypothesis, but are not certain whether it is true or to what extent it is true. This present majority of scientists, clinicians and families want to see the theory subjected to scientific evaluation that is truly open to the evidence and that addresses the theory with the great urgency it deserves.

I have dedicated much of the past 30 years to evaluating complementary and alternative medical (CAM) approaches to health. I have specialized for the past 20 years in studying CAM therapies for cancer. Before that I spent a decade studying CAM therapies for children with learning and behavior disorders. So, I address this issue of CAM therapies for autism with extensive knowledge about these approaches.

I am equally engaged with the community of scientists and health professionals exploring the revolution in environmental health sciences, which is looking carefully at the impact of the
environment on almost 200 different diseases, disorders and conditions. Understanding the plausibility of the new paradigm of autism requires understanding the revolution in environmental health sciences.

It makes the most sense to start this discussion of the new paradigm of autism by looking through the broad lens of the revolution in environmental health sciences and then coming back to the clinical and research issues.

The Ecological View of Health and the Environmental Health Science Revolution

I wrote an essay a decade ago called “The Age of Extinctions and the Emerging Environmental Health Movement.” I said that scientists know we are living in the sixth great age of extinctions in the history of the earth. We are driving biodiversity back 65 million years to its lowest level of vitality since the end of the age of dinosaurs. There are five major causes of this new age of extinctions: climate change, the depletion of the ozone layer, toxic chemicals, habitat destruction and invasive species.

The first three causes of this “age of extinctions” all reflect the reality that we live at the end of the hydrocarbon century in which we have learned how to pump fossilized sunlight and stardust – carbon resources and heavy metals – from their safe resting place under the earth’s mantle and turn them into toxic chemicals and gasses that are changing the earth’s atmosphere and building up in our bodies.

There are many other threats to human and environmental health: poverty, infectious diseases, nuclear radiation, electromagnetic fields, and the new threats of biotechnology and nanotechnology. All of these factors interact in an infinitely complex “soup” in which our genetic make-up is bathed from conception to death. This means that personal health and environmental health are inseparably connected. The environment is not only outside us; it is inside us.

“...This means that personal health and environmental health are inseparably connected. The environment is not only outside us; it is inside us.”

Schettler reasons, enables us to understand, study and remedy our current condition in an appropriate and effective way.

This ecological view of health has emerged over the past two decades from what Pete Myers, Ph.D., CEO, Environmental Health Sciences, has called the revolution in environmental health sciences. This revolution has been driven in significant part by the discovery of endocrine-disrupting chemicals, which have fundamentally shifted the old paradigm of how chemicals affect our health. The old paradigm focused on large doses of chemicals and how they affected adult health. The new paradigm focuses on the powerful health impacts of some chemicals that affect fetal development at infinitely lower doses – parts per billion or trillion – at critical stages in fetal development. Following is an example of how a chemical (in this case, a drug) caused harmful effects to the children of the women who took it.

“I am a DES son. My mother took di-ethyl-silbestrate, believing it would protect her from the series of miscarriages that preceded my birth. DES, it turned out, caused reproductive cancers in lab rats, a fact that the pharmaceutical industry knew while it was promoting this medicine for pregnant women. Decades later, physicians accidentally found that DES was causing reproductive cancers in the daughters of women who took this medicine.

The impact on DES sons is less clear, but many of us have benign prostatitis and other conditions. DES was the first endocrine-disrupting chemical discovered by scientists. Now we know of hundreds of chemicals that disrupt the endocrine system and other key signaling systems that affect the health of the developing fetus in hundreds of different ways.

The Vaccine Controversy and the New Paradigm of Autism

Endocrine-disrupting chemicals may or may not contribute to what is apparently an epidemic of autism. Skeptics insist that what we are witnessing is simply a shift in diagnostic categories. The specific contaminant of greatest concern to thousands of parents across the country and around the world who believe in the environmental connection to autism is mercury. The claim is that the mercury in vaccines often plays a critical role in sending normally developing children into an autistic regression.

The vaccine controversy has engulfed rational dialogue about the etiology of autism in ways that many responsible
scientists do not believe serves the field best. First, there are numerous sources of environmental mercury exposure other than vaccines. Second, there are good reasons to believe that mercury is not the only environmental trigger for autism. Gluten sensitivity, for example, has also been implicated. Third, we cannot really assess any environmental contributors to autism as long as we remain in a paradigm of autism that considers the disease exclusively inherited. That is why framing the issue as an inquiry into the “new paradigm of autism” is far preferable from the perspective of both scientific understanding and the urgent need for clinical progress.

Whatever your views on the vaccine controversy, imagine that ultimately research demonstrates that vaccines have been a significant contributor to autism – a claim that leading medical authorities have vigorously denied. Even if the advocates of the vaccine hypothesis turn out to be right, this will prove only to be a start to examining the broader research and clinical need for a new paradigm of autism. The most important point is that we can address the need for a new paradigm of autism research in a much less inflammatory way by setting the vaccine hypothesis aside. Once the case for a new paradigm of autism is established, the vaccine controversy can then be addressed for what it is – one and only one of the potential contributors to the development of autism.

I personally believe that the new paradigm of autism fits the clinical facts and the theoretical conclusions being derived by the scientists and clinicians who are leading the environmental health science revolution. At the same time, I remember well the enthusiasm of parent groups at the time allergist Ben Feingold, M.D., proposed that food additives were the leading cause of attention deficit hyperactivity disorder (ADHD). I investigated these claims with some care at the time they were made three decades ago. It turned out that some cases of ADHD were triggered, if not caused, by exposure to food additives. But the real roots of the epidemic of ADHD can be found in the far more complex set of all the environmental exposures of the developing fetus and young child. Thus, the Feingold hypothesis was in many ways like the vaccine hypothesis. It was a partial truth, but the debate between true believers in the Feingold Diet and its most vociferous opponents in many ways obscured the more important truth of the new paradigm of learning and developmental disabilities that has emerged over subsequent years.

My own perspective is that some of the claims being made with respect to both environmental causation and CAM medical treatment of autism will turn out to be excessive. I have talked to many parents of autistic children who made sincere and extended efforts to help their children with these CAM medical treatments to no avail whatsoever, and at great financial and personal cost. I have also seen convincing documentation of children who have greatly improved, and in some instances recovered, using these CAM therapies.

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The Clinical, Research and Policy Imperatives for Progress in Autism Research and Treatment

The real research and clinical issues facing those in the autism field are that we urgently need to 1) document the best cases of clear-cut recovery, or major amelioration, of autism associated with all treatments, including CAM medical treatments, purely behavioral treatments and combinations of the two; 2) rigorously explore the theoretical new paradigm of autism to account for what appears to be happening both in causation and in occasional successful CAM medical treatment; 3) learn how to identify those children for whom expensive, arduous CAM medical treatments are most likely to be successful; 4) address the question of how to make medical as well as behavioral treatments available to all who seek them out; 5) educate parents about which treatments, both medical and behavioral, to undertake with their children; and 6) explore which policies we should support that make effective diagnosis and treatment available, and that prevent as many future cases of autism as possible.

These are the research, clinical and policy issues in autism. Let us now turn to the broader context of this debate in both environmental health and integrative medicine. For the past five years, I have been deeply engaged in the development of the Collaborative on Health and the Environment. The collaborative is an international partnership of individuals and organizations seeking to raise the level of public and professional dialogue on the impact of the environment on human health. The collaborative now has over 2,250 organizational and individual partners in 47 states and 32 countries, including a “who’s who” of leading environmental health scientists, patient advocates, health professionals and other concerned citizens.

The Autism Society of America is, I am pleased to say, one of the lead members of one of the most effective working groups in the collaborative, known as the Learning and Developmental Disabilities Initiative (LDDI). The collaborative has other working groups on science, integrative health, cancer, asthma, infertility and pregnancy compromise, and Parkinson’s disease.

What has emerged from the work of the collaborative over the past five years is that the debate over the new paradigm in autism research and treatment has almost exact parallels to many other disease groups, such as breast cancer, Parkinson’s disease, and infertility and pregnancy compromise. In some areas, such as asthma, the role of environmental toxins is well defined. But in many diseases, such as breast cancer, Parkinson’s disease, and infertility and pregnancy compromise, the new science indicates an infinitely complex interaction among genetic inheritance, gene expression as modified by fetal exposure to endocrine-disrupting chemicals, diet, stress, income disparities, ethnicity, exercise and numerous other factors.
What seems to be the case in Parkinson’s disease and autism, to narrow our inquiry further, is that we are not dealing with single diseases but rather with families of disease clustered under diagnostic categories. What seems to be true in both conditions is that a wide range of different environmental “hits” at different points during human development interact with all the other factors named above and finally converge in one or another common pathway and emerge as a syndrome that is given a single label.

What this means in reality is that the search for a single unitary “cause” of these diseases will ultimately prove fruitless. We will rarely find a single chemical exposure, be it pesticides for Parkinson’s disease or mercury for autism, that operates in a genetic or environmental vacuum. It may turn out to be that pesticides are a more significant contributor to Parkinson’s disease than other exposures, or that mercury is a significant contributor for some subset of autism cases. But these and many other diseases will ultimately have to be explored in light of the environmental health sciences revolution and the emerging paradigm of ecological health, in which the full complexity of all environmental and heritable factors drives our understanding of the clinical, research and policy issues.

Environmental Awareness

Does this lead us to a sense of hopelessness about making progress on autism, Parkinson’s disease or the hundreds of other common diseases of our time? Not at all. It leads us to an awareness that if we are facing an epidemic of ecological diseases, we must craft responses at the personal, public health and ecological levels.

At a personal level, the strategy for lifelong health for ourselves and our families is to reduce potentially harmful exposures and increase personal resources for resilience. The approaches for achieving this are well known: a healthy diet, exercise, stress reduction, reduction of harmful exposures and the like. At the public health level, the same is true for our communities – local, regional and national. At the ecological level, the same is true for our ecosystems – personal, regional and global. At each level, there are, of course, limits to what we can accomplish. It is ultimately impossible to have a healthy and thriving human community on a sick planet. But transforming human health in positive directions must happen at every level. People who understand health promotion and disease prevention at a personal and family level are more likely to care about creating healthy local communities. People who care about healthy communities want healthy states, eco-regions and countries.

I saw a bumper sticker as I was driving home one day that summed up this truth in six words: “One People. One Planet. One Future.” The new paradigm of autism is not just a strategy for parents of autistic children. If mercury proves to be a significant contributor to autism, then the incidence of autism in the United States will turn out to be inseparable from the coal power plants that are proliferating in China. Advocates for autistic children are right to focus on treatment and prevention for children and families right now. But we also should recognize that the epidemic of autism affecting our families is part of a much bigger pattern of all the environmentally connected diseases that are affecting us all, not only in America, but around the world.

If these issues interest you, we welcome you in the national and international community of dialogue about the environmental health science revolution and the health of our families and communities. The Collaborative on Health and the Environment is free to join and we will never use your name without your explicit permission. You can check out the collaborative at www.healthandenvironment.org. You can make your voice heard not only for your own family, but for the whole human family.

AUTHOR

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