

Book Reviews

Fat Chance: Beating the Odds Against Sugar, Processed Food, Obesity, and Disease, by Robert H. Lustig, M.D., M.S.L., softcover, 320 pp, \$16.00, ISBN 978-0-218043-3, Plume Publishing, 2014.

We are painfully aware that obesity has become the new normal not only in the United States but increasingly across the globe. The obesity statistics are alarming. One quarter of all U.S. children are obese. Teens are now one-third of all new diagnoses of Type 2 diabetes. More than 40 percent of death certificates list diabetes as the cause of death, up from 13 percent 20 years ago.

Thankfully, *Fat Chance* is not merely another how-not-to-be-fat book with the author hawking his product line as the cure-all. Dr. Lustig, a pediatrician, has distinguished his contribution by combining science and politics, along with clinical vignettes and practical advice on developing a healthful diet.

Dr. Lustig attempts to explain how the obesity epidemic happened in “such a short 30 years.” He challenges the common notions that “a calorie is a calorie,” and that obesity is simply a behavioral problem. In his view, our obesity pandemic is due to our altered biochemistry, which is a result of our altered food environment. Dr. Lustig has backed up his claims with extensively referenced peer-reviewed journal studies. The statistics alone are enlightening even if you do not agree with his conclusions.

The thrust of Dr. Lustig’s argument is that sugar is toxic and food has been “reformulated to be an addictive substance.” He takes us through a brief history of our innate taste for sugar, noting that sweetness signaled food safety to our ancestors because no sweet foods were acutely poisonous. Fast forward to the 1980s when, based on poor science, the government and organized medicine jumped on the low-fat bandwagon. To compensate for reduced fat, manufacturers added sugar for flavor. Consequently, total carbohydrate intake increased from 40 percent to our current 55 percent of total caloric intake.

The political history of sugar may sound familiar. Cheap food means political

stability. The amount of personal income spent on food has declined over the last 40 years. But cheaper, micronutrient-poor processed food is loaded with preservatives for a longer shelf life. High fructose corn syrup (HFCS) is half the price of sucrose and readily available thanks to corn subsidies that President Nixon instituted to assist farmers in times of fluctuating food prices. Five percent of all corn grown in the U.S. goes to HFCS. Additionally, the Farm Bill has subsidies for many forms of storable carbohydrates. Even to suggest halting the subsidies is politically verboten.

Moreover, government food programs have not been helpful in curbing obesity. Much of the food that the poor obtain through SNAP (Supplemental Nutrition Assistance Program, formerly food stamps) and WIC (Women, Infants, Children) is processed and sugar-laden. The government’s carbohydrate-heavy food pyramid was only recently replaced.

In plain English, Dr. Lustig discusses the science behind the various medical and biochemical causes of obesity as well as the pitfalls of added fructose. He explains how food energy is processed and stored, the hormonal feedback systems, types of hormone deficiencies, hypothalamic disorders, insulin resistance, and the effects of stress and sleep deprivation. Pulling this information together, he explains why diets do not work in the long run.

In addition to personal solutions, Dr. Lustig delves into the complexities of public health interventions. Unlike tobacco or alcohol, food is a necessity, thus making regulation in the interest of public health difficult. His key is to decrease the availability of sugar, perhaps through taxation and subsidizing greens instead of corn. He recognizes this is at odds with our free-market society, but believes an exception is justified because sugar is an addictive substance. He also notes that the poor would be disadvantaged as fresh foods are more expensive and the poor are the biggest consumers of sweetened beverages.

Fat Chance is an easy read for physicians and their patients, with a useful index, glossary, and charts of good

and bad fats, dietary suggestions, and sources of fiber. Importantly, the book contains an all-too-familiar lament: crony capitalism ensures that the government bends regulations in the food (or insert industry of choice) industry’s favor. Thus, we can only count on ourselves—not politicians—for solutions.

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Denied, by Jeffrey B. Nordella, M.D., with Kim Beyer-Johnson, softcover, 264 pp, \$18.95, ISBN 978-0-9983892-0-2, Jeffrey B. Nordella, M.D., 2016.

This self-published book, a doctor’s firsthand story, was for me more of a page-turner than the latest best-selling thriller. There’s the heartwarming story of a boy born in poverty in Los Angeles, with probably no better prospects than one day being an auto mechanic, making it to medical school. It is a beautiful, tragic love story about his beloved wife and family. There are harrowing true-life medical stories from the emergency room and the scene of a terrible highway crash.

Dr. Nordella loves his patients and loves the art. He is just the sort of doctor you would want for yourself or your family—but just the sort of doctor that insurance companies do not want. Instead of being compliant and succumbing to burnout, he went to battle for his patients. He had a thriving solo practice in urgent care, until Anthem Blue Cross, which covered about 60 percent of patients in his practice, decided to destroy him.

This solo practitioner, with the aid of a solo-practicing, brilliant, intrepid litigator, Theresa Barta, fought this multi-billion-dollar giant through 14 years of litigation. Although you know from the blurb on the back cover that Dr. Nordella won an unprecedented victory, the book manages to maintain suspense throughout.

Both doctors and attorneys can learn something from the details about the legal battle and the trial. The conclusion I draw is that it is impossible for doctors to win in arbitration. Their only hope is to finally get before a jury. One also learns

how the class-action suit against Ingenix almost crushed Dr. Nordella's hopes.

Interspersed in the book are passages written by the author's children and by Theresa Barta, giving an additional perspective on the events. I think the book would gain in professional credibility if someone were to fix the spelling errors, the dangling modifiers, and other grammatical atrocities, but nonetheless, the style is engaging.

One conclusion that I reach, although I don't know whether it has occurred to the author, is that patients should not continue turning their money and their lives over to any corrupt, rapacious insurance monster. The "insurer" first collected the patients' premium dollars, then it denied payment, and still worse, it convinced the patients that the problem was the doctor's fault for offering substandard or unnecessary care.

The situation will be familiar to all doctors who have endured Medicare or insurance audits: the unwarranted comparisons of a specialty practice or an urgent-care practice with a standard family practitioner's office, the unwarranted extrapolations, the endless demands for documentation, and the bureaucratic runarounds.

We applaud Dr. Nordella for his valiant battle and glorious victory. He did not, however, manage to put a stake through the heart of the beast. What we really need to do is to starve it.

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Oxygen and the Brain: The Journey of Our Lifetime, by Philip B. James, softcover, 516 pp, \$49.99, ISBN 978-1-930536-50-0, North Palm Beach, Fla., Best Publishing; 2014.

Physicians learn something about oxygen transport in physiology class and have been using oxygen with patients since the earliest days of their clinical rotations. They may think that they already know everything they need to know about this essential gas, but they would be wrong. This book challenges some of the basic dogma that most of us were taught during our residencies. It also offers the prospect of path-breaking advances in the treatment of otherwise hopeless conditions. Many of these possibilities were discovered decades ago and then forgotten.

The oxygen saturation of hemoglobin, routinely monitored these days, is certainly very important. However, the only oxygen

actually available to the tissues comes from that which is dissolved in the plasma. The fraction of inspired oxygen (FiO_2) is not the only important factor—just the only one doctors can ordinarily control. Hospitals are not generally equipped with barometers, although barometric pressure may be very relevant to patient well-being and not just to weather prediction. There is good evidence that the multiple deaths in Mount Everest's Death Zone in 1996 were caused by a sudden fall in barometric pressure on the summit. The fall was only 16 millibars, in contrast with a fall of 120 millibars from the highest to the lowest barometric pressure that has occurred at sea level in the UK.

James, a specialist in diving medicine from the University of Dundee, Scotland, who has consulted for many international diving contractors, reviews what we have learned about the importance of pressure changes from experience with high-altitude balloons, mountain climbing, flight, space travel, caisson workers, and divers.

James covers the basic science from physics to state-of-the-art molecular biology. Tissue hypoxia has many physiologic effects. The proteins in the hypoxia-inducible factor system are known to be responsible for regulating more than 8,000 genes. These include the gene responsible for the production of blood vessels: vascular endothelial growth factor (VEGF).

James challenges dogmas that have caused physicians to refrain from giving sufficient oxygen to patients who desperately need it, such as patients with chronic obstructive lung disease and premature infants. Contrary to what has been taught for 50 years, there is no hypoxic respiratory drive that would be suppressed by increasing the patient's oxygen flow. And the dreaded retinopathy of prematurity (retrolental fibroplasia) is not caused by a high oxygen level but by reducing it too rapidly. Higher plasma pO_2 causes vasoconstriction in the retinal vessels—as can be seen by ophthalmoscopy—while at the same time improving oxygen delivery. Infants can safely be given enough oxygen to prevent cerebral palsy, as long as it is tapered very slowly. Then there is the belief in pulmonary oxygen toxicity. The lung damage may actually result from positive-pressure ventilation. The negative-pressure ventilator known as the "iron lung" could allow a patient to be safely ventilated for years without a tracheostomy, but is otherwise quite inconvenient.

A key purpose of the book is to

promote hyperbaric oxygenation therapy (HBOT) as a treatment for conditions going beyond the well-accepted ones for decompression sickness and wound healing. One barrier is the insistence on randomized double-blind controlled trials (RCTs) for new indications. James argues that RCTs are not only inappropriate, but often actually unethical for HBOT. Oxygen is, after all, a necessity, not an "adjunct." But the requirement for extremely expensive trials—the total cost to bring a new drug into use has reached almost \$2 billion—has created a very profitable research industry. He states that in the UK medical schools would collapse without the income from these studies.

James provides a detailed analysis of some studies of HBOT, including one in children with cerebral palsy discussed in this journal¹ and a well-controlled study in multiple sclerosis (MS)²—and the hostility with which promising results were greeted.

The discussion of autism is of special interest today. Autistic children have reduced blood flow in areas of the brain, where the blood-brain barrier may be especially susceptible to damage, and active neuro-inflammatory processes have been demonstrated. "Given our knowledge of the role of oxygen in the control of inflammation, there could not be a more convincing argument for the treatment of children with hyperbaric oxygenation," he writes.

Vaccination can induce encephalitis, but a relationship may be difficult to establish, especially if the reaction is long delayed (Guillain Barré as long as 70 days after swine flu vaccination, or encephalopathy 99 days after rubella vaccination). James considers such a reaction to be an emergency calling for immediate HBOT.

The mechanism for potential vaccine damage could be the final common pathway for damage from other insults, which lead to similar pathology: edema, infiltration of the walls of veins, a perivenous inflammatory reaction, and perivenous hemorrhages. This starts with endothelial damage, which causes breakdown of the blood-brain barrier, inflammatory reaction, and nerve damage, with varying manifestations depending partly on the vascular anatomy. The term vasculomyelinopathy was suggested by Charles Poser and colleagues in 1978.³ This pathology is seen in post-infectious and post-immunization syndromes including measles and Guillain-Barré, fibrocartilaginous embolism, fat embolism, decompression sickness, and MS. Damage is caused by hypoxia as well as leakage of

toxic substances. And James suggests that HBOT enables healing. He pioneered the use of HBOT for MS in the UK.

James discusses the case of a police constable who developed typical MS symptoms within days of a vehicle accident in which he sustained a whiplash. He refers to a 1991 book called *Trials of an Expert Witness* by Dr. Harold Klawans, who reported a similar story. Klawans's patient had findings in three sites that suggested MS—but it was only one attack (i.e. dissemination in space, but not time). Klawans considered it a “dreadful dilemma” and a “puzzlement.” He asked, “What do you tell a patient?... Would it be fair to give her the label of multiple sclerosis?” These cases are intriguing, although most patients with an attack of MS do not report that it was preceded by trauma.

James challenges the conventional view that MS is an autoimmune disease, pointing out that the same autoimmune phenomena can also be seen in stroke patients. The distribution of lesions and the time course demand an explanation. Since 1982⁴ James has been proposing fat embolism as the mechanism. On magnetic resonance imaging, lesions from cerebral fat emboli, like those of MS, show hyperintense areas on T-2 weighted images. Nontraumatic fat embolism is surprisingly common, and fatal fat embolism has occurred after simple soft tissue injury. While most fat emboli are trapped in pulmonary capillaries, microemboli can escape into the systemic circulation. As a sidebar, James notes that experimental allergic encephalomyelitis, considered the animal model for MS, is not induced simply by injecting ground-up brain tissue. Freund's adjuvant, a mixture of mineral oil and killed tuberculosis bacteria, is required.

James also includes extensive discussions of traumatic brain injury and stroke, and applications of HBOT in these conditions.

The book is extensively and brilliantly illustrated. The many historical photographs include John Scott Haldane, whose work in the field was seminal, testing his breathing apparatus in a coal mine. Photomicrographs, gross pathology specimens, retinal photographs, and the latest in neuro-imaging studies (pre- and post-treatment) help make a convincing case for James's unifying theory on the pathophysiology of many neurologic conditions.

James not only reviews the history and the science of HBOT but has been making history himself with his pioneering work. His disruptive ideas could make billions

of dollars of research based on the wrong theories obsolete, posing a serious threat to lucrative drug therapies. In short, this book is revolutionary.

The book is indexed and extensively documented and will be invaluable as a reference work, but also merits a close reading and re-reading cover to cover. My only complaint is with the binding. While beautifully printed, the pages will not lie flat when the book is opened, even in the limited hardbound edition.

In the last chapter, “The Way Forward,” James quotes Victor Hugo (1802-1885): “An invasion of armies can be resisted, but not an idea whose time has come.”

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1. Sénéchal C, Larivée S, Richard E, Marois P. Hyperbaric oxygenation therapy in the treatment of cerebral palsy: a review and comparison to currently accepted therapies. *J Am Phys Surg* 2007;12:109-113.
2. Fischer BH, Marks M, Reich T. Hyperbaric-oxygen treatment of multiple sclerosis: a randomized, placebo-controlled, double-blind study. *N Engl J Med* 1983;308:181-186.
3. Poser CM, Román G, Emery ES. Recurrent disseminated vasculomyelinopathy. *Arch Neurol* 1978;35:166-170.
4. James PB. Evidence for subacute fat embolism as the cause of multiple sclerosis. *Lancet* 1982;1(8268):380-386.

Female Erasure: What You Need to Know about Gender Politics' War on Women, the Female Sex and Human Rights, Ruth Barrett, ed., soft cover, 623 pp, \$24.97, ISBN-13 978-0997146707, Tidal Time Publishing, 2016.

Editor Ruth Barrett is a courageous radical feminist who has defied political orthodoxy in publishing *Female Erasure*. The book is an eclectic, incisive, well-referenced analysis of the transgenering of society and its harmful impact upon women and children. Not only did Barrett swim headlong into the transgender tsunami, braving an onslaught of harassment, but she also reached across the political divide when she invited me, president of the pro-life American College of Pediatricians, to submit my scientific statement on gender dysphoria as chapter 12 of her anthology.

Radical feminist and conservative thought overlap not only on transgenderism, but also on pornography, prostitution, sex trafficking, the sexualization of children, and the negative consequences of society's embrace of sex stereotypes. All of these, in turn, converge in the politics of gender ideology, as *Female Erasure* reveals.

Contributors to *Female Erasure*

include physicians, midwives, therapists, academics, lawyers, mothers of children who have transitioned, and de-transitioning women who transgendered as teens only to discover in their late twenties that they had internalized such a degree of misogyny from family and society that they assented to a chemical and surgical assault on their bodies. These de-transitioned women view their transgender experience as the result of having been pressured into chemically and surgically impersonating a man in order to role-play a heterosexual relationship with another biological woman.

Barrett's compendium is categorized into six sections. The first is “Biological Erasure by Gender Ideology.” These chapters highlight the need to make critical distinctions among the objective biological trait known as sex, the social construct inextricably tied to oppressive sex stereotypes called gender, and a person's psychological gender identity. Also included are essays detailing the suppressed medical debates over transgenderism, particularly concerning children.

The next several chapters are grouped under the heading “Re-framing Reality and the Language of Erasure.” This section contains essays describing how transgenderism leads to the elimination not only of legal protections for women and children, but also of the very categories of girl and woman under the law.

Remaining sections include “The ‘Violent’ Female Body” (a collection of woman-centric poetry); “A Room of Our Own” (essays that explore the beauty, privilege, and need for female-only spaces and social gathering); and, finally, “Personal Stories from the Belly of the Beast” (accounts from women who went through medical procedures to impersonate men, as well as accounts of women whose husbands sought to impersonate women). Liberal readers may be tempted to dismiss this work as “trans-exclusionary feminism,” and conservatives will reject the underlying Marxist framework. However, despite these political and worldview differences, the contributors present realities that all can agree exist—realities that very well may contribute to the transgender phenomenon.

Given that transgenderism is being increasingly enforced as a matter of social justice throughout society, *Female Erasure* deserves a close read by Americans of every political stripe.

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