Nenah Sylver, PhD

ERIFE Handbook Itandbook of Frequency Therapy and Holistic Health and Holistic Health

an integrated approach for cancer and other diseases

UPDATED EXPANDED

5TH
EDITION

Holistic Health | Electromedicine

Just two decades ago, Rife Therapy was virtually unknown. Gradually, hundreds of thousands of health seekers—from Germany to England, Indonesia to Australia, South Africa to the United States—began purchasing "rife" machines for themselves, their families, friends, and pets. This safe and effective technology, which delivers frequencies for healing via electrodes or an electromagnetic field, has been successfully used for cancer, neurological disorders, Lyme disease, gastrointestinal and respiratory infections, childhood illnesses, and dozens of other diseases and degenerative conditions.

Despite the best efforts of organized medicine and the pharmaceutical industry to suppress this healing modality, Rife Therapy is finally emerging into public awareness. Tired of conventional medicine's consistent failures to produce cures, people are making Rife Therapy part of their lives in ways they could never have imagined.

Previous versions of this book sold in over thirty countries. This updated and expanded 5th edition has been completely rewritten, reorganized and expanded, with almost 400 more pages in an easier-to-read format. It contains new information on self-administered natural therapies (including clay, activated charcoal, castor oil, and homeopathy), expanded sections on the dangers of electropollution and vaccines, and suggestions for safe substitutes for many of the drugs and poisonous chemicals we have in our homes. There is also updated advice on how to use frequency machines and other electromedical instruments for healing, along with listings of new diseases and frequencies that disable microbes and restore cellular vitality.

Complex data explained in understandable terms will reassure the layperson, while thousands of scholarly references will satisfy the serious researcher. The Rife Handbook is the most complete and versatile reference anywhere on electromedicine and holistic health.



This is an invaluable resource, not only for scientists and health professionals, but also for individuals who want to know more about technologies and adjunctive health therapies. . . . A better name might be "the bible of electromagnetic devices and complementary medicine made accessible to everyone." . . . Nenah Sylver is an outstanding writer . . . I urge you to use this book as a guide and a reference.

—Steve Haltiwanger, MD, CCN lecturer, researcher, and consultant in psychiatry, Rife Therapy, electromedicine, and nutrition

An invaluable reference manual for complementary therapies and holistic living in general. The writing is superb. The information is well researched, logically presented, and accurate. . . . I am beyond impressed.

—Martha M Grout, MD, MD(H) Arizona Center for Advanced Medicine Scottsdale, Arizona





In this 5th edition . . . Nenah Sylver has set an even higher bar of excellence. She has conveyed so much new and important information in an even more organized and cohesive manner, that this edition is a "must have" even if you enjoyed the previous volume. . . . An incredibly valuable resource that everyone needs.

—Jimmie Holman, co-founder Pulsed Technologies Research (USA) and Bioenergetics & Pulsed Technologies (EU)

The Rife Handbook is an encyclopedia of holistic health. It's so comprehensive, it's mind boggling. . . . Nenah Sylver does an amazing job . . . This stellar body of work belongs in every household as well as every practitioner's office.

—Bernard Straile, DC

developer of the IMAET quantum energy wellness equipment



Praise for The Rife Handbook

Natural therapies and healing have been ridiculed as quackery by the medical-pharmaceutical complex for a century. Yet consumers spend thirty billion out-of-pocket dollars a year on alternative therapies. Why? Not because people are gullible, but because many of these modalities work. Holistic health is complex. It addresses the entire body, all one hundred trillion cells. Supported by abundant research, Nenah Sylver does an amazing job explaining the plethora of options, techniques and technologies that will help readers make informed decisions about how to naturally support their health and innate healing power. Simply put, *The Rife Handbook* is an encyclopedia of holistic health. It's so comprehensive, it's mind boggling. This stellar body of work belongs in every household as well as every practitioner's office.

—Bernard Straile, DC
author of One Thousand Shades of Pink
and developer of the IMAET quantum energy wellness equipment

This book is incredibly well written and comprehensive, relevant to students and practitioners alike. Covering an array of topics in medicine and holistic health, it comes at a most crucial time in the bourgeoning field of alternative and complementary health care. Having read scores of books on electromedicine, I count this book as my number one reference on the topic. I only wish I had the knowledge presented in these pages many years ago. As a scientist with over forty years of clinical and academic experience, I am mesmerized by Nenah Sylver's quality of writing and knowledge. She explains the most difficult topics clearly so anyone can understand and benefit from what she has to offer. Dr. Sylver is sure to inspire and educate those fortunate enough to hold a copy of her book in their hands. Without question, she will be included as one of the great minds of the 21st century. It is with great pride and honor that I recommend *The Rife Handbook* without hesitation to all physicians and students in the health field.

—John A. Amaro, PhD, DC, LAc, Dipl Med Ac past president, International Academy of Medical Acupuncture and developer, Electro Meridian Imaging $(EMI)^{\text{IM}}$ acupuncture diagnostic instrument

In this 5th edition of *The Rife Handbook of Frequency Therapy and Holistic Health*—the definitive work on Rife, resonant frequency, pulsed energies, and related technologies for therapeutic use—Nenah Sylver has set an even higher bar of excellence. She has conveyed so much new and important information in an even more organized and cohesive manner, that this edition is a "must have" even if you enjoyed the previous volume.

Dr. Sylver's unique ability to translate complex information into accessible content, suitable for health professionals and laypersons alike, leave most hard-core technical persons (like myself) in total awe. Her attention to accurate historical detail as opposed to myth, and inclusion of new, cutting-edge complementary healing modalities, allows readers to strategize a practical and effective approach for their often serious health issues. This latest edition empowers the reader by providing a wealth of knowledge compiled, sorted, and refined over the last decade. It offers information that few have time to research for themselves when their health requires it the most. This book is an incredibly valuable resource that everyone needs. If you have but a single reference in your library on the science and practice of these technologies and therapies, *The Rife Handbook* should definitely be the one!

—Jimmie Holman co-founder, Pulsed Technologies Research (USA) and Bioenergetics & Pulsed Technologies (EU) Traditional medicine, with its faulty paradigm and obsolete Neanderthal protocols, is already in a state of decline. In its wake, Integrative Medicine has begun to fill the void with bio-mechanical therapies, electromedicine, and more natural remedies to heal. Keeping up with the many advances is a monumental task.

The previous edition was a first-rate, comprehensive, extremely well organized and documented manual to help laypersons and physicians better understand the concepts of vibrational medicine and the power of complementary health protocols. As an author, researcher and international lecturer with over forty years of clinical experience, I was literally blown away by that masterpiece and gave it a definitive five-star rating. This revised 5th edition of *The Rife Handbook of Frequency Therapy and Holistic Health* is a perfect example of intelligent evolution. Dr. Nenah Sylver has compiled an even more comprehensive holistic bible. In an improved format, it provides frequencies to treat new diseases, plus expanded sections on the politics of medicine and vaccines, more breakthrough complementary therapies, historical electromedicine references, and other topics to help one survive the pitfalls of modern medicine. It's a must for everyone's reference library.

—Gerald H. Smith, DDS, DNM past president, Holistic Dental Association

Dr. Nenah Sylver has brought together the sciences of bioelectronics and naturopathic health care in a truly integrated approach. *The Rife Handbook* is the bible of holistic medicine for the 21st century.

—Brian McInturff
creator of the Consolidated Annotated Frequency List (CAFL),
www.electroherbalism.com

Dr. Nenah Sylver has gifted humanity with a magnificent, comprehensive, thoroughly researched guide to holistic health as well as the science and application of the work of a great medical pioneer, Royal Raymond Rife. This book will help physicians expand their base of practical and theoretical knowledge. I highly recommend it for any clinical practice utilizing complementary and energy medicine therapies.

—Robert S. Ivker, DO co-founder and past president, American Board of Integrative Holistic Medicine (ABIHM) and author of Sinus Survival

At a time when health conscious individuals are concerned about drug-resistant infectious diseases, the government's push for mass inoculations, the over-medication of children, bioterrorism, and negative effects of vaccines and drugs, along comes a well researched, easy-to-read treatise that revives non-invasive and effective frequency therapy. *The Rife Handbook* is sophisticated enough for the seasoned health professional, yet thorough and understandable enough for the novice. This book does more than discuss the genius of Royal Raymond Rife; it superbly explains holistic approaches to treating disease. Even if the reader does not (yet) own a frequency device, this book is one of the best primers I have ever seen on holistic health. Anyone interested in alternative healing protocols must have this book.

—Rose Marie Williams, MA
Townsend Letter columnist, and natural health and environmental advocate

This 5th edition of *The Rife Handbook* is huge. Our definition of "handbook" must expand to include the book's thousand-odd pages—making it a little unwieldy in the field, but absolutely worth keeping at the desk. It's enormous in scope, but Nenah Sylver eases us into the text by explaining, in the Introduction, the premise under which she operates: "It became clear to me that I couldn't just create a list of numbers [frequency settings] to go with the equipment . . . it wasn't enough to receive frequency sessions; [people] had to actively eliminate the conditions that had allowed their illness to occur in the first place." The end result is truly a comprehensive volume of healing.

Healing invariably makes us think of germs. But as Dr. Sylver writes, "As long as we perceive ourselves as helpless victims of germs, we'll continue to rely on pharmaceuticals to help us get well." A famous senior executive at GlaxoSmithKline (whom she quotes) once publicly admitted that over 90% of pharmaceuticals are only about 30%–50% effective (depending on the genetics of the person to whom they are administered). Dr. Sylver discusses the effectiveness and toxic effects of pharmaceuticals in depth. The political aspect of both pharmaceutical drugs and their marketing is also discussed and referenced extensively. The section on vaccination is to be particularly noted—the history, politics, science, and their incorporation into our own genetic material (a sort of biologic gene editing phenomenon). And that is only Chapter 1.

Other highlights made a particular impression as well. Dr. Sylver discusses the inventions of Royal Rife and the discoveries of other healers in this field of holistic medicine. The entire history, as recounted in this book, is sordid, and reflects very poorly on the medical establishment, including the American Medical Association. We are given a multitude of choices for healthy living—with the caveat that "one size fits all" does not work for either bathrobes or diets. I was especially drawn to the section on gratitude, toward both the animals and plants that provide us with our food. The Brix measurement of plant vitality was a brand new one to me. High Brix means more nourishment, and is measured by placing a drop of plant juice on a device called a refractometer and seeing how much the light is bent as it passes through the prism. There is also a very interesting discussion of wheat, and how it has become modified from the original 14-chromosome glutenpoor grain to the current 42-chromosome gluten-rich grain associated with multiple forms of illness known as "gluten intolerance."

One of the appendices gives an excellent discussion of various electromagnetic frequency devices and magnetic therapy in general. Another appendix satisfies the research junkies among us, a list of published papers and books on electromedicine dating back to 1877. Plus, there are still all the chapter references, almost five hundred for Chapter 1 alone. Appendix E gives a tantalizing glimpse of current research on frequency treatment of cancer cells *in vitro*. And Appendix F lists commonly used chemicals, almost all of which are toxic to human life. There is so much more to this book that you need to read it for yourself and decide what your favorite portions are.

If you want to learn about Rife therapy or the context in which it is best used, this book is an excellent place to start. It is also an invaluable reference manual for complementary therapies and holistic living in general. The writing is superb. The information is well researched, logically presented, and accurate. "We cannot die in peace without living in love," writes Nenah Sylver. The overall impression this book leaves is one of light and healing.

I am beyond impressed.

—Martha M. Grout, MD, MD(H) Arizona Center for Advanced Medicine Scottsdale, Arizona Dr. Nenah Sylver's 2001 edition offered an impressive collection of long-suppressed information to help people break away from the self-serving deceits employed by conventional allopathic medical care and the pharmaceutical industry. With this new volume, Dr. Sylver demonstrates her mastery of this complicated field with massive amounts of hands-on information that you must learn if you are to finally be well. She courageously demonstrates how each of us has the power to take charge of our own lives and create our own wellness protocols, without abdicating responsibility to anyone else. *The Rife Handbook* is destined to become the definitive reference on attaining self-directed, holistic health.

—S. Nathan Berger, DDS, PC Rife researcher and biological dentist

It doesn't happen very often, but occasionally I read a massive book on natural health and healing that just plain blows me away. Dr. Nenah Sylver's huge and impressive *Rife Handbook* is more than merely the best and most complete compendium on frequency healing that I've ever seen. In addition to a massive cross-referenced frequency directory for most human ailments, this wonderful book also features detailed, helpful, and ground-breaking information on complementary therapies—and much, much more.

—Chet Day
Health & Beyond Online, www.chetday.com

As an AAMA Board Certified Alternative Medicine Practitioner, I have many fine modalities from which to choose. I recently experienced a health issue that failed to be helped by either conventional allopathic medicine or even alternative medicine treatments. However, after a Rife frequency square wave treatment protocol was applied, this health issue was completely resolved.

Rife technology, until now, has been largely questioned by both alternative medicine and allopathic practitioners for efficacy and disease resolution. But *The Rife Handbook* will dispel your doubts. It is the recommended work for practitioners who need to understand how and why this therapy works, and who want to utilize frequency therapies in conjunction with current preferred interventions to help their patients heal. Nenah Sylver's definitive interpretation of frequency therapy identifies applications, indications, contraindications, safety, and specific treatments along with directions specifying "how, when, and what frequency" for therapy sessions. The detail with which the author examines treatment modalities is remarkable; she presents a variety of protocols to resolve most health issues. It is rare that I read another's views of various alternative medicine therapies that exude such succinct clarity and comprehension as hers. Dr. Sylver has a remarkable grasp of what works, how it works, and on whom it may be effective.

This well-referenced treatise provides treatment options when progress falls short, or when there appears to be an impassable plateau in the way of optimal recovery.

—Bill Misner, MS, PhD
AAMA Board Certified Alternative Medicine Practitioner

When Nenah Sylver published the first edition of *The Rife Handbook* in 2002, it received excellent reviews as the best book in the field. This new version is substantially updated and improved, reflecting many of the advances in frequency therapies that have occurred in over a decade. Frequency therapy, properly applied, may well replace every other modality. Frequencies can alter DNA, kill or enhance cells, affect all chemical interactions, break up toxic substances and cause them to be eliminated from the body, kill pathogens that disrupt bodily function, and enhance and stimulate all cells and organ systems to higher levels of performance.

There are superbugs and bioengineered diseases out there that might make it to your neighborhood. Will your local medical clinic help you when thousands of people are dying from a strange disease? Don't count on it! If you want to live long and prosper, learn about frequency therapy. Dr. Sylver spends a lot of time in her book to help you use frequencies safely. Even if you just want to make life a little better for your family and friends, you will want to read *The Rife Handbook*.

—Jeff Sutherland, PhD
co-principle investigator of research grants, National Cancer Institute
assistant professor, Department of Radiology, University of Colorado School of Medicine
co-founder, Center for Vitamins and Cancer Research
Frequency Foundation, Boston, Massachussetts, United States

We work in the area of complementary and holistic cancer healing education and recommend Rife therapy to all our clients. *The Rife Handbook* is a bible in our office, an invaluable tool toward the healing of dozens of cancer victors. Nenah Sylver's research is thorough and detailed. The book sits on a prominent place on my shelf next to every frequently used manual in my practice.

—Ellyn Hilliard, CNC, PhD
former co-owner of Twelve Ways Healing Center in Colorado, US
and author of Cancer Healing Victories

Royal Raymond Rife discovered one of the most groundbreaking medical tools of the last hundred years. Due to political and financial interests, his discoveries were driven underground. But today, people suffering from cancer and other diseases can base their treatment on authentic science instead of politics. A scientist in the true definition of the word, Dr. Sylver methodically guides readers through Rife's life and achievements, with a history of the technology and the scientific foundation for its use. She also provides practical tips that can be easily integrated into a comprehensive protocol for a wide variety of health conditions. Nenah Sylver is the "researcher's researcher"; I habitually turn to her work as a trusted reference. I recommend *The Rife Handbook* without reservation to every health seeker, patient, physician, and scientist who values objectivity and innovation in medicine and wants guidance on complementary healing modalities.

—Bryan Rosner author of Lyme Disease and Rife Machines, The Top 10 Lyme Disease Treatments, and Freedom From Lyme Disease



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an integrated approach for cancer and other diseases

Updated and Expanded 5th Edition

Nenah Sylver, PhD

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The Rife Handbook of Frequency Therapy and Holistic Health: an integrated approach for cancer and other diseases. Updated and Expanded 5th Edition

The first softcover edition of this book, with a different title, was published in 2001 by The Center for Frequency. Two larger, revised hardcover editions, with substantially new material, an index and also different titles, were published in 2009 and 2011 by Desert Gate Productions LLC. This updated and expanded 2018 edition is published by Desert Gate Productions LLC. All rights reserved.

New interior book design by Nenah Sylver. Cover design by Duane Burchett and Nenah Sylver. Index by Nenah Sylver.

Cover Images, Back.

Top: Bipolar nerve cell, as seen through the Ergonom microscope.

Middle: Cross section of a bone 3.5 mm thick, as seen through the Ergonom microscope.

Bottom: Cell division, as seen through the Ergonom microscope.

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This book is dedicated

to all peoples everywhere—

black brown red white yellow

who seek

clean food pure water dependable shelter right livelihood and radiant health

who want to be

acknowledged in community respected for their humanity and honored for their divinity.

May they find the dignity joy peace and love

that is their birthright

and may they always have freedom to choose the course of their own lives.

Disclaimer

The information given in this *Handbook* is for educational, informational, and investigational purposes only. It is not to be construed as diagnosis of disease, treatment of disease, prevention of disease, or as a replacement for consulting a qualified medical practitioner.

Be careful when investigating this technology! Protocols may need to be modified, or used with only certain types of equipment and not others—or this technology may be contraindicated entirely—if you have a heart condition, are wearing a pacemaker or autodefibrillator, are pregnant, are nursing, have blood clots, are taking strong medications such as chemo, are taking herbal or nutritional supplements, have a medical need to suppress your immune function (such as organ transplant recipients who are taking immunosuppressive

drugs), are wearing metal implants or stents, have breast implants, are especially sensitive to radio frequency (RF) or other electromagnetic radiation, or have especially sluggish detox/eliminative functions (liver, colon, kidneys, and lymph system). Before using any equipment, and to see if you should even be experimenting with this technology, please read the beginning of Chapter 4, which explains these circumstances and the precautions to take. The author, publisher, distributors, and sellers of this book are not responsible or liable for the results of your experimentation with Rife Therapy or your use of any other protocols described in this book. The reader accepts full responsibility for any and all consequences of trying or using these modalities. If you have a medical condition, see a qualified health professional of your choice.

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Detailed chapter outlines, containing up to four levels of headings and subheadings exactly as they appear in the text, are at the beginning of each individual chapter.



Royal Raymond Rife with one of his microscopes, 1929.

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Acknowledgments

This book would never have been written without the pioneering discoveries and great personal sacrifices of Royal Raymond Rife. Likewise, this book could not exist without the contributions of the archivists, electronics engineers, microscopists, medical researchers, and others who came after Rife and continue to refine the growing field of frequency healing. This *Rife Handbook* is not intended to replace anyone's research, discoveries, or devices. Rather, it is meant as a guide to complement the Rife resource material that has been reemerging after being suppressed for over half a century.

Throughout the years, as this book has grown in size and detail, more and more people have critiqued it, adding to the book's complexity. There are many researchers in the Rife Therapy field who deserve to be acknowledged for their efforts to promote this drug-free, non-invasive modality, although not all are in the public eye (or want to be). Of those who can be named, I thank Brian McInturff for his early Consolidated Annotated Frequency List and continuing contributions to the Rife community; Jeff Sutherland, PhD, for his eclectic approach and assistance to me in the early days of this manuscript; and Jeff Garff, Shawn Montgomery, Jason Ringas, and Stanley Truman for allowing me to use documents and photos from their archives. Dave Felt spent many hours patiently answering my questions and explaining technical issues; Bryan Rosner provided valuable information and enthusiastic support; and Edna Tunney and her staff at Resonant Light Technology Inc. have continually offered me moral support and the kindest, most polite encouragement as only Canadians can. Peter Walker, founder of Rife Research, Europe and the Rife Forum (www.rifeforum.com), has graciously provided information and practical assistance over the years. With her usual incisive and detailed focus, Charlene Boehme explained technical information and reviewed my history of Royal Rife, correcting errors (many of them widely disseminated on the Internet) that had appeared in previous editions of this book. Richard Loyd, PhD, has shown exceptional kindness, sharing not only his extensive knowledge and many wonderful articles but also his clinical findings, which includes what doesn't work along with what works better.

Jimmie Holman of Pulsed Technologies deserves special mention. Over the course of four editions of this book, this brilliant scientist has become a close friend as well as a mentor. I will always treasure his willingness to share his innovative research, accompanied by a generous dose of patience as I sometimes struggled to understand what I was being taught. Special mention also goes to Steve Haltiwanger, MD, CCN. Steve's giant intellect, encyclopedic knowledge, kind heart, and many hours of discussion helped me include more important information.

Rife therapy should be administered holistically, as part of an overall wellness protocol. Therefore, this book addresses many complementary modalities. A project of this scope and depth could not have been completed without input from health professionals and educated laypersons versed in acupuncture, biology, chemistry, chiropractic, herbology, massage therapy, physics, and even law. There are too many people to name who provided input for both past and current editions. I trust that you all know who you are and will accept my thanks.

Some of the organizing assistance for past versions of Chapter 5, provided by Linda Thieman, MA, were retained for this current edition. Ann Rogers and Ron Strauss, who provided the index for earlier editions, laid the foundation for my indexing of this current book. Duane Burchett, with abundant patience, provided many versions of this new cover until I was satisfied. Special mention goes to David Friedman of Barner Books, who in the process of working as my sales agent became a good friend.

Because this is a book about healing, it's important that I acknowledge some very talented healers who, at different times, helped me through some rough periods: Ataana Badilli; Martha Grout, MD, MD(H); Steven Haltiwanger, MD, CCN; Marcelle Hanish, PhD, LAc, RN, FNP-C; and Richard Loyd, PhD. A fortunate outcome of my having health challenges, and my subsequent investigations into the most effective therapies, is that my readers can also benefit. Many of the healing protocols I used for myself made their way into this book.

If I haven't acknowledged someone I should have, it was inadvertent, so please consider yourself included.

In the personal arena, I am blessed by two wonderful people who have become my family and constantly show me that our companions in life can help us work miracles. Throughout the many years that I labored on all versions of this book, Paul Silverfox helped with countless everyday tasks so that I could spend uninterrupted hours writing. He reviewed all of the previous editions as well as this current one, remaining cheerful no matter how many rewrites I

asked him to critique. From his perspective as a licensed massage therapist, he offered sage advice on many topics concerning health and gave me encouragement whenever I needed it. I will always treasure his friendship, support, and common sense. For this fifth edition, James Dutcher provided enthusiastic and loving encouragement as well as highly personalized computer and software support. He upgraded, repaired, and debugged my computer when it was needed. And he spent many hours helping me navigate a frustratingly complicated software program for professional publishing. Doing my own manuscript layout was not only exhilarating and empowering, it heavily influenced my writing. I cannot emphasize enough how formatting this book myself allowed me to include more, essential, and timely information, organized in a way to make complex data easier to absorb. In a sense, this book has been created for you by three people. I could never have written it without Paul and James.

There are many others who I want to acknowledge, even though I'll never meet them face-to-face. On a daily basis, members of Internet health groups from all over the world shared their sometimes very personal stories about how they were helped by frequency therapies and other complementary modalities. I found these accounts informative, inspiring, and often moving. I also want to acknowledge the thousands of laypeople and health professionals who, over the course of two decades, telephoned or emailed me with questions and comments. By propelling me to search for answers, their questions helped me create a better book.

Finally, there's one more person I want to sincerely thank: you, the reader. Your open-mindedness to investigate new ways of healing, your desire to learn, and your willingness to take responsibility for your health, are a testimony to what holistic medicine is all about. It is in service to you that I have written *The Rife Handbook*.

Foreword by Steve Haltiwanger, MD, CCN

Medicine is a cult. Just as religion has its catechism, medicine has a set of credos based on faith. The faith says that if you take a pharmaceutical, it will fix everything. But this is a delusion. Pharmaceuticals do not heal. In order for true healing to take place, you need raw materials: amino acids, fatty acids, minerals, vitamins. Otherwise, cells do not work, tissue cannot be restored, and symptoms will not abate. They will not ever abate, not unless the body is given the chance to fix itself. Therefore it is my great pleasure and honor to be asked to write a foreword for this new edition of *The Rife Handbook*. It does not ask that you accept what is written on faith. You are presented with some solid science that organized medicine denies, the self-serving political agenda that organized medicine tries to cover up, and the contradictions in logic that organized medicine tries to pretend do not exist. And then it is up to you to decide what to do about your health.

I met Nenah Sylver at a scientific conference many years ago, and she and I stayed in constant contact thereafter. I found her to be a compassionate individual and a good friend. Nenah is not only an outstanding writer and the author of the best electromagnetic medicine book currently on the market, she is also a multi-talented musician and songwriter. A person of depth, she has lived an interesting life. She has always collected and surrounded herself with individuals who are curious and expansive in their vision. Not surprisingly, she gathers and assembles information the same way. She does extensive research, so her readers can be satisfied that

the information she has collated has been checked. She asks the same question, of several people, until she is satisfied with the answer. In her investigations into new developments in the scientific community, Nenah is in regular communication with innovators. This includes manufacturers of electromagnetic medicine equipment. Then she assembles a voluminous amount of information, and somehow it all neatly fits together into a book.

While this book has "Rife" in the title, it is a much broader review of multiple technologies that can be used to promote health. I ought to know. I have lectured for thirty-three years in seventeen countries on topics involving electromagnetic biology, infrared therapies, PEMF therapies, psychiatry, and nutritional treatments of neurological conditions. Over the last twenty-two years, I have participated in seventy-two research studies focused on the use of PEMF devices, microcurrent treatments, infrared therapies, photobiomodulation, nutritional supplementation, and laboratory analysis of human chemistry. I have formulated numerous nutritional supplements and I'm a consultant to several companies in the medical field. With my background and experience, I am pleased to say that this book is an invaluable contribution to the holistic and alternative medical fields. It is documented and sophisticated enough for the professional, and accessible enough for the layman.

With information expanding at a geometric pace, it is impossible to keep current with all the equipment that is being invented and produced. It is also difficult to keep current with all the advances in complementary medicine. Therefore, although this is called a "handbook," a better name might be "the bible of electromagnetic devices and complementary medicine made accessible to everyone." My one complaint is that I don't have enough time and money to buy and try all the technology described in this book.

This book is not the type that you usually read cover to cover. Instead, it is like an encyclopedia in which you search out specific topics that you have an interest in exploring. As you look through this book, you'll discover how the properties of electricity, magnetism, light, and sound can be utilized by devices to affect and regenerate the human body. You'll also learn about more complementary therapies than you possibly have time for. While these therapies reinforce the benefits of having an electromagnetic medical device, if you don't own a piece of equipment just yet, the therapies can do a pretty good job on their own. In fact, the therapies are critical to becoming well and staying well.

Having had the pleasure of reading prior versions of this book, I am happy to report that this current version has vastly improved, like fine wine that gets better with age. This 5th edition has been expanded by over three hundred carefully documented pages. *The Rife Handbook* is an invaluable resource, not only for scientists and health professionals, but also for individuals who want to know more about technologies and adjunctive health therapies. I urge you to use this book as a guide and as a reference. Savor it.

—Steve Haltiwanger, MD, CCN
Health and Science Director for LIFEWAVE INC.
lecturer, researcher, psychiatric consultant, and
consultant in Rife Therapy,
electromedicine, and nutrition

medical director and consultant for an international nutrition corporation

former medical director, Emmanuel Center for Health

author of dozens of research papers, including "The Electrical Properties of Cancer Cells"

co-author of the book *The Electric Human* (at www.pulsedtechresearch.com)



Imagine what your life would be like if you could eliminate ill health in as little as one day for something mild (like the common cold), or in several months to a year, maximum, for a more serious illness (like cancer). To do this, you would need three things: a protocol to strengthen your system so that it's no longer a breeding ground for pathogens, a frequency device, and a list of frequencies to go with the device. You would not need toxic drugs or invasive surgery, you would not incur unfairly high medical bills, and you would not have to depend on doctors for long periods of time. This protocol is called Rife Therapy, named after its inventor Royal Raymond Rife.

American scientist Royal Rife, and his remarkable technology that has helped thousands overcome life-threatening diseases, is finally becoming more public after decades of suppression. As incredible as it sounds, though, the knowledge that specific frequencies destroy pathogens is not new. Royal Rife began his career as an inventor almost a century ago.

It all started with one of Rife's key inventions, a most unusual microscope. In those days, the magnifying power of existing microscopes was poor. Individual viruses, and even some bacteria, could not be seen because they were too small. Determined to view them, Rife built his highly acclaimed Universal Microscope. Many times more powerful than other magnifying instruments, the microscope made specimens visible without killing them. This feat was beyond the capacity of even an electron

microscope, which makes pathogens visible by bombarding them with electrons in a vacuum, thus destroying them.

Rife had a good reason for wanting to see specimens in their natural live state. If you want to discover how to kill a microorganism, you need to know how it reacts to its environment. Once Rife could observe the activities and responses of living microorganisms, he could devise a method to destroy them. Hence, the Rife Ray was born.

Rife's strategy of destroying microorganisms was based on the principle of resonance. Every living organism has a resonant frequency, or intrinsic radiation signature. The cliché of the soprano who shatters a glass with her single, pure, focused tone is (for now) an adequate working metaphor for how Rife's electronic device worked. The various frequencies it emitted, via an electromagnetic field, corresponded to the resonance of different pathogens and therefore disabled them. Once they were no longer viable, the body's immune cells could eliminate them.

Tests were successfully conducted on thousands of infected animals. Many of the most prestigious doctors and pathologists in the US, impressed with the initial results, supported Rife in several ways. They gave him money, worked with him in his laboratory, substantiated his findings, and used the Rife Ray in their US and overseas clinics. Some doctors even sent Rife notarized affidavits affirming the effectiveness of the treatments. Accounts of Rife's microscope and ray machine were published in newspapers, journals, and medical bulletins across the United States.

Ironically, Rife's treatments may have been too successful. The medical-pharmaceutical industry, foreseeing a massive loss in profits from drugs and surgeries, appointed some very vocal opponents—none of whom, it should be pointed out, tested the machine. The physicians and financial backers who had been Rife's colleagues and friends became targets of character assassination. Medical boards threatened to revoke the licenses of doctors who used the Rife Ray unless they relinquished their equipment. Some of Rife's closest collaborators later denied even knowing him, despite the existence of a widely circulated photograph in which they appeared with him at a banquet in his honor. Articles on Rife and his inventions began disappearing from newspaper archives. The greed and callousness of the wealthy powerful few deprived many sick people of healing and even cost them their lives. Vilified and discredited by the ignorant and greedy, his technology misunderstood and underutilized, Royal Raymond Rife died in 1971.

Rife's story, while unique in some ways, nonetheless follows a familiar pattern. First, a therapy is discovered that's non-invasive, inexpensive, and drug free. Next, after it makes large numbers of people well, its inventor, proponents and users are privately harassed, publicly humiliated, and legally persecuted. Perhaps they even die of mysterious causes or under suspicious circumstances. Finally, steeped in rumor and innuendo, the modality disappears. As with other promising complementary treatments, Rife's therapy was driven underground.

The long silence on Rife and his inventions was finally broken with Christopher Bird's article "What Has Become of the Rife Microscope?", which appeared in the March 1976 issue of *New Age Journal* and was later reprinted in other publications. Then in 1987, Barry Lynes published *The Cancer Cure That Worked*, an emotionally-charged glorification of Rife's life and work. However, original source material was scarce. Movie footage from 1936 showing Rife in his lab, and a few equally old photographs, provided the only visual clues about the equipment.

Gradually, other memorabilia surfaced: Rife's surviving lab notes, letters, telegrams, photographs and awards, all unearthed from different locations. One researcher spent hours rummaging through the morgue files of a California newspaper office to find decades-old news clippings. Another investigator spotted articles in obscure yellowing engineering journals. Still others uncovered documents in the attics and basements of people descended from Rife's colleagues and co-workers. One astonishing find was an old trunk full of reel-to-reel tapes, featuring discussions between Rife and his close colleagues. The tapes were transferred onto CDs and made available to the public.

Around 2005, a non-working Rife Ray was found in a museum and restored by a team of resourceful engineers. Shortly after, a US frequency equipment manufacturer acquired a box of priceless documents from a nurse who had once worked with Royal Rife's colleague John Marsh. This manufacturer was then given an old schematic of one of Rife's original units built in the 1930s. With the help of others—including an elderly engineer familiar with the tube technology of Rife's era—he deciphered the almost illegible drawing and reconstructed the model. Then an actual prototype of yet another model was discovered, and the Rife community was closer to understanding how Rife's technology worked. This knowledge was not merely academic. It could, and would, lead to the production of more effective modern units.

Also around this time, the most powerful of Rife's microscopes was resurrected: the Universal Microscope (after being stolen from Rife's lab decades earlier and then recovered). Kept safely in an undisclosed location, it underwent meticulous restoration by several key researchers until it was again taken. Predictably perhaps, the cloak-and-dagger antics of secrecy, theft, and duplicity that had plagued Royal Rife have continued today.

Fortunately, not everyone interested in Rife history wanted to hoard their treasures. Many documents, along with designs of Rife's original ray machine, were posted on the Internet. This global sharing has allowed Rife's diverse technologies to inspire progress in many fields of electromedicine today. Using the primary source materials as references, scientists, health practitioners, electronics engineers and curious laypeople are now experimenting with different types of machines as well as new frequencies. With a rapidly growing, fresh generation of wellness seekers demanding access to life-saving technology, a new era of frequency healing has been born.

Although frequency equipment has been substantially modified and redesigned since Rife's colleagues treated people in the 1930s, 40s and 50s, the basic principle of how the devices work—pathogen destruction through resonance—remains the same. There are now hundreds of companies, on every continent of the globe, selling frequency therapy units to address all types of diseases. Despite the intimidation tactics of the medicalpharmaceutical industry and some government agencies, more researchers are stepping forward to share what they know, via the printed page, radio, electronic media, and at conferences. In addition, medical clinics and formal and informal research centers are springing up all over the world: Australia, Mexico, Canada, the Netherlands, New Zealand, South Africa, Germany, Romania, and the United States, among other countries.

The more I became immersed in frequency therapy, sharing—with friends, acquaintances and even strangers, anyone who'd listen—became a full-time job. There was so much to report and explain that I was teaching even in social situations when I "should" have been relaxing. I did recognize, though, that this was a lot of information for people to handle—especially in a social situation, where they're not expecting to be bombarded by an impassioned lecture on medicine. Also, people tend to retain information more easily if it's written down. And, most important, although my enthusiasm never waned, my energy levels did. So I realized I needed another way to convey the material, and looked for well written, acessible books that presented the topic clearly and thoroughly.

To my great dismay, I couldn't find what I was looking for. What I wanted, very simply, was an all-purpose holistic health book that met many needs and featured a wide range of topics: cutting-edge research in medicine and science, an exposition on Rife and his work, and a foundational discussion of electromedicine (so people would understand why Rife therapy is so effective), along with a directory of frequencies to use for specific health conditions. Not surprisingly in retrospect, nothing suited my exacting requirements. After complaining for months about how hard it was to obtain reliable information about Rife, in conjunction with additional topics that I felt were essential—presented, no less, in just the way I wanted—I realized that the person who was supposed to put all this together was me. That is how my little list of popular frequencies metamorphosed into a project whose scope I couldn't possibly have foreseen. This fifth edition that you are now holding in your hands is the result of my curiosity, learning, labor and love over the course of two and a half decades.



Now that you have this *Handbook*, where do you begin? Some readers, especially those who own frequency devices, may be tempted to jump directly to the Frequency Directory (Chapter 5). But this *Handbook* is about much more than pathogen-destroying frequencies. It is about freeing yourself from medical propaganda, trusting in your own experience, and opening to the self-confidence and health that blossom when you think and act for yourself. So please don't ignore the beginning of the book. It shows you new ways to approach your body and healing, as well as addressing your questions about rife machines.

Chapter 1, "The Politics of Medicine and the Nature of Health," is a primer on allopathic vs. holistic (also known as "complementary," "alternative," or "functional")

medicine. It explains why most drugs don't work and in fact make you worse—as well as how most clinical trials are not only worthless, but can be rigged to "prove" whatever outcome the experimenter wants. The reader is also shown how drugs are approved, and by whom—which in virtually all cases, involves politics and profit rather than humanitarian concerns or even good science. This chapter also contains a brand new section on electrosmog: what it is, how it affects us, and how to avoid it.

Chapter 2, "The History of Pleomorphism and the Inventions of Royal Raymond Rife," features Rife's unusual life and the controversial debate over pleomorphism—a phenomenon relatively unknown in the United States, but widely understood in Europe. Pleomorphism is the ability of pathogens to radically change their form, structure and function, from simple and primitive to highly complex and multi-functional, depending on the changing terrain of the body. Rife's microscope showed that often, pathogens become dangerous only when the system becomes biochemically unbalanced. So, if you are attached to the germ theory of disease, this chapter will give you a different perspective. The debate on pleomorphism is important, because as long as we perceive ourselves as helpless victims of germs, we'll continue to rely on pharmaceuticals to help us get well. But if we understand that pathogens can and do adapt to their environment, we can lessen or remove their harm, knowing that we can alter that environment—the terrain of our own bodies.

The task of making that terrain (ourselves) less hospitable to pathogens leads us to Chapter 3, "Healthy Living and Complementary Therapies." Here, you will find some of the most effective, user-friendly, and inexpensive protocols to help you detoxify and heal. This chapter is a guide for frequency device users who want to handle the effects of sudden microbial die-off. But it's also designed for non-rifers who want clarity about lifestyle choices, and are eager to learn about some of the best, mostly selfadministered, holistic protocols available today. Readers already familiar with these protocols will learn new ways to approach what they're doing. The range of therapies is vast. In addition to ozone, sauna and light therapies, Inclined Bed Therapy, and homemade colloidal silver, I have added sections on homeopathy, organ cleanses, and so-called "folk" remedies that really work—activated charcoal, clay, and castor oil. This edition also contains vital new information on food, exercise, and nutritional supplements. Also, from my Reichian psychology background, I discuss the relationship between mind and body and the psychological aspects of what we call disease.

Chapter 4 shifts our focus to the "how to" of Rife's technology. To apply this technology correctly, you need

Furthermore, the medical industry has a very narrow definition of "normal," even though people vary wildly outside the range of presumed "normalcy." How many times have you heard of someone who felt unwell, only to have their doctor say, "There's nothing wrong with you; you're in perfect health"? We need to rely on common sense and how we feel, not blindly trust medical biases that have no foundation in fact. Much of modern medicine is based on arbitrary standards that change, according to the desires, agendas, and goals for profit of those in power.

Here's a question, then, that I like to ask: If medical standards keep changing (apparently capriciously), and doctors keep changing their minds about protocols and prescriptions (based on these capricious standards), whose standards should we follow? And from whom should we seek guidance? Maybe it's time to reevaluate the health care you have been receiving. Consulting with a health professional can be helpful and even essential, but you must use your own discernment too. Who is most qualified to help you? The person with the most impressive credentials may not be your best choice. If your practitioner doesn't listen to your concerns or take them seriously, or if his or her training seems more important than what you are experiencing, maybe you should start looking for another practitioner.

You are the one who's living in your body—so ultimately, your best teacher is you! However, to become that exemplary teacher requires commitment. You have to study, reason, decide what to keep and what to discard, trust your own (informed) experience, and be willing to make mistakes and learn from them. And you will make mistakes! But let that be okay. Taking responsibility and being accountable for our own decisions and actions makes us powerful. This book is a stepping stone to acquiring the knowledge that you need to become an expert...on you.



Today, almost five decades after Rife's death, the concepts of Rife Therapy, frequency healing and resonance therapy—while not yet household phrases (at least in the US)—are trickling more into the public's consciousness. In some circles, the technology is being used so regularly that the word "rifing" has become a verb. I think that Royal Rife would have been moved and gratified that his modality is finally being given the respect it deserves. I trust that by the time you finish this book, you, too, will be using the word "rifing" as a verb.

One final thought. More and more people are insisting that they aren't commodities that are bought and sold in the marketplace. They don't want to be toyed with, experimented on, or lied to. They don't want their

treatment options limited by what their doctors were allowed to learn in medical school. And they don't want licensing boards to prevent their own doctors from helping them: most boards forbid doctors to suggest alternatives to the prevailing (allopathic) standard of care.

People also want their health care providers to honor their need for compassion and hope as much as they honor their need for physical care. Health seekers want to be respected, to have their humanity acknowledged—and to be free to make their own choices. In other words, people want a voice in matters that affect them—and this includes the health protocols they use. No wonder polls consistently show that three-quarters of the United States population have sought complementary therapies in addition to Western medicine!

In this technologically advanced and uncertain age, with escalating infectious diseases and degenerative conditions, we need Rife's and similar technologies more than ever. Yet the power elite is fighting back even harder, invested in perpetuating its own agenda and maintaining the status quo—at the expense of health and happiness, not to mention lives. Despite an obvious need worldwide for all kinds of electromedical modalities, information about Rife Therapy has largely been available only to the few who discover it by chance, or who know where to look for it (and to look for it at all). The majority of people in the United States are ignorant of this elegant technology that can substantially reduce suffering and save countless lives. My goal is for *The Rife Handbook* to empower significant numbers of people—not only by providing them with reliable information about more and better health care choices, but by inspiring them to spread the word to others that these choices exist.

The widespread use of frequency therapies, including Rife's technology, promises to change the way medicine is practiced. Even if you are fortunate to be in good health now, it's comforting to know that this technology is available if you or a loved one need it in the future. Simply by picking up this book, you have proven that you want more than what's being offered by industrialized pill pushers, that you aren't satisfied with the lowest common denominator of mediocrity. Anyone who seriously investigates Rife Therapy is making a statement. Therefore, you deserve to be congratulated for having the vision and strength to see through—and beyond the dominant paradigm. It takes courage to challenge entrenched ideas!

I sincerely thank you for helping to create this positive global change in consciousness. It is truly a blessing to be accompanied by all of you who are embarking on this amazing journey of healing and hope.



Nearly all people die of their medicines, and not of their illnesses.

—Molière, French writer (1622–1673)



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The Politics of Medicine and the Nature of Health

TODAY'S CHALLENGE

Chances are, if you're reading this book, you have a health problem. Or someone you know does. Perhaps your treatment didn't work. Or it had too many unwanted, negative effects. Maybe it's taking too long. Are there viable alternatives for you, your family and friends? What are these other modalities, and how can you access them?

Perhaps you've heard about Rife the man, or the therapy he invented. What is it, how do you use it, and how can you get it—now? If you suffer from chronic or serious health problems, it's understandable that you might feel impatient and want answers to these questions immediately. This chapter doesn't talk about Rife or his therapy, though. Why not?

Electromedicine, which includes Rife Therapy, is not routinely used. It's not routinely used because it's not well known. But this doesn't mean it doesn't work. The relative obscurity of all electromedical modalities is due to the overbearing nature of our current medical paradigm.

In order to utilize Rife Therapy properly, it's important to understand the limitations of our medical system and why it has eclipsed other, more effective modalities. Therefore, I ask for your patience as I present the material in a manner to provide you with maximum benefit.

Some of the data that you'll read may surprise, disturb, and even shock you. But only by knowing the truth can we know what we're dealing with in our quest for healing. The truth always helps us make wise and informed choices.

Everyone wants to be healthy. Yet in this modern world, good health seems more elusive than ever. The number of chronic and degenerative diseases, such as arthritis, diabetes and colitis, have skyrocketed. Cancer, which according to the American Cancer Society afflicted only one in 8,000 people living in the United States in 1901, now plagues almost one out of two Americans. Many more people suffer from asthma and food allergies—which, although usually not life-threatening, can substantially interfere with one's quality of life.

Citizens of industrialized countries outside the US have fared better, at least so far. However, with the rapid increase of "fast" food, as well as unwise agricultural practices and pollution worldwide, the prevalence and severity of illnesses outside the US is escalating as well. And many people in non-westernized countries suffer from serious diseases and microbial epidemics, most of which are caused by unsanitary living conditions. Despite our apparent best efforts, viable long-range plans to improve the world's health have not yet appeared. Global illness is an escalating and severe problem.

It's time to change our approach—but so far, the world has been given basically one perspective: the dominant medical model. Do we really have other options?

We do. However, to explore these other options, we need to take a critical look at the existing medical paradigm. Once we understand what went wrong, we can figure out how to make it right. Then, global illness will become global wellness.

DEFINING HEALTH

The word *healthy* comes from an old Anglo-Saxon word meaning "to heal, make whole." This indicates that health is the ability to function in a unified way, in which all parts and living processes interact with each other in a complex, balanced exchange.

We cannot be robustly healthy in general while some little part of us is very ill, just as individual parts of us cannot be in perfect health while the rest of the body is sick. How many times have you heard, "She was perfectly healthy until she came down with cancer"? That "perfect health" didn't exist. It took time for that woman to reach a state of imbalance. Her doctors and family just thought she had been well because they were unable to recognize the warning signs that indicated the eventual onset of cancer. The limitations of conventional medical training impeded not only the ability to diagnose, but also to cure.

There are two basic approaches to disease: allopathic (modern Western) medicine, and holistic (complementary) care. Holistic medicine is sometimes called "functional medicine" because it deals with the function and structure of the body, and not just pathology, infection and disease. Most of us have been raised under an allopathic paradigm; but with a little practice, you can expand out of the allopathic world into the wider arena of holism.

Allopathic medicine is concerned with treating disease. It regards the body as a machine that is the sum of its parts. If something breaks, it must be fixed. One way to fix it is to cut out the body part or parts that aren't working (surgery). Another way to fix it is to give the person a drug that substitutes for the function of the body part or parts that aren't working. Still another way to fix the body is to numb the person against feeling the uncomfortable symptoms—again, by administering drugs. Drugs are created by extracting individual components from whole herbs, and/or synthesizing chemicals in a laboratory.

Holistic care is concerned with maintaining health. It treats the person as a living entity of interconnected relationships rather than as a carrier of isolated symptoms we call *disease*. The body is a unified organism that is greater than the sum of its parts. If something doesn't function properly, we need to find out why. Improving function requires a multi-dimensional approach. We must eliminate the poisons that clog the system. We also require the appropriate raw materials to rebuild tissue. These include foods, herbs and perhaps supplemental nutrients. And we might benefit from energetic treatments—in the form of healing electromagnetic fields, electricity, or magnetism—which encourage proper function of cells.

There are times when allopathic medicine does have its place. If a motorist is seriously injured in an automobile collision, doctors can perform life-saving surgery. If someone does not produce enough insulin (a pancreatic hormone that helps the body utilize blood sugar) and is about to fall into a dangerous diabetic coma, the administration of an allopathic drug can save a life. Emergencies by definition require immediate intervention; we don't have time to wait for the body's natural recuperative abilities to start working and create the needed changes. It is wise to acknowledge that sometimes, the body simply cannot heal without a well-timed, externally-generated push.

Degenerative diseases, however, take time to develop. Had the person possessed more biochemical and energetic balance in the first place, s/he would not have reached the point of requiring such drastic intervention. Restorative steps could have been taken initially so there would not be a sudden need for insulin later. With allopathic medicine, invasive behavior is the norm and not the exception. With preventive medicine, there is less need for aggressive intervention because the body's innate ability to heal is being respected instead of suppressed.

In America, allopathic medicine is called "traditional," while holistic medicine is commonly labeled "alternative." But it's allopathic medicine that is "alternative." Holistic medicine has existed since ancient times, while allopathic medicine has gained gradual prominence only in the last century.

As part of this attempt at cognitive reversal, allopathic medicine is also called *mainstream* care. Being in the *mainstream* (as compared to an incidental little trickle) implies *main treatment*, which then translates to *treatment of choice*. But one must ask, "*Whose* choice?" Not surprisingly, *mainstream* medicine is heavily promoted by *mainstream* media, which casts holistic care as the "other" or "alternative" modality—and, by implication, as "secondary" or "inferior." With few exceptions, the media also tries to denigrate holistic care through such misleading terminology as "controversial," even though the mainstream press itself has reported that about 75% of the United States population has tried some form of "alternative" holistic modality in the past several years. In *Immunization: The Reality Behind the Myth*, Walene James asks:

What is *controversy*? The word itself comes from the Latin meaning "turned opposite." That which is controversial is turned opposite a dominating structure, in this case, establishment medicine. In a free and open society, there would be no such label as "controversial," only disagreement within an open forum of ideas and options. There would be no one mainstream but many streams, each meeting different needs.

has its limitations. No matter how hard the kidneys are forced to work (assuming they don't become overloaded), there's only so much acidity they can eliminate. The blood transports excess acid to the kidneys only a little bit at a time, and slowly. After the kidneys have excreted all they can, if excess corrosive acids and acid-forming substances still threaten to damage the bloodstream, the acids are simply relocated elsewhere in the body to protect the blood. These toxins get stored in the extracellular fluids (fluids surrounding the cells), the connective tissue, the joints, and even the organs.

Waste accumulates in the system more often than many people realize, which is why cleansing and detoxification are so central to natural medicine. This is how a chain reaction of deterioration in bodily functions starts to occur. It is this autointoxication—a condition of being poisoned by one's own toxic wastes—that lays the foundation for degenerative conditions including arthritis and bone loss, allergies, cardiovascular problems, diabetes, fibromyalgia, kidney stones, and even cancer.

Storing overly acid *or* alkaline wastes in the tissues to get them out of the bloodstream—while a necessary and viable intervention by the body—is, at best, an emergency, short-term solution to a pH imbalance. Bone loss is a good example of a highly unbalanced, overly acidic system. It also graphically illustrates a malabsorption or shortage of calcium and other minerals, which are key factors in maintaining the proper pH. Most of the calcium we ingest is not used for bone construction, but instead freely circulates in the body to be utilized in various metabolic processes, including the neutralization of systemic acids. The blood's pH balance is so crucial that when no more calcium is available, the body leaches it from the bones. This is why getting sufficient calcium is so important. However, the calcium must be balanced with other nutrients, including Vitamin K2, magnesium and boron, which help the body absorb and utilize the calcium. Otherwise, bone loss and other symptoms commonly associated with calcium deficiency occur, due to the excess calcium that's disintegrating the bones. Note that there are acid-forming and alkaline-forming varieties of calcium, and different people require different forms.

As I hope you're beginning to see, testing for pH, interpreting the results, and correcting imbalances isn't simple! Although a disturbed pH can be due to many factors, the converse is also true: a pH imbalance can augment already existing conditions or even cause new ones. Sometimes a seriously ill person can become well just by correcting the pH. Please consult a practitioner who understands body chemistry and your unique nutritional needs. Whatever the issue, though, eating lots of greens or drinking chlorophyll in water can help everyone.

Proliferating Pathogens

Harmful microorganisms are an obvious component of illness. The same unbalanced pH that contributes to tissue deterioration also allows bacteria, viruses, parasites and fungi to grow. The speed of pathogen proliferation also depends on glucose and oxygen levels. Harmful microbes love sugar and most thrive in a low-oxygen environment.

In the body, pathogens steal nutrients from the foods you eat. They also excrete waste. Wastes from fungi, called *mycotoxins*, are particularly nasty. (*Myco* is from the Greek word *mykes*, which means "fungus.")

The corpses of these microorganisms can also toxify. Sometimes a leukocyte (white blood immune cell) attacks, immobilizes and devours a pathogen whole. However, this scenario is not always possible. In many people who are ill—particularly if they have chronic conditions—the immune cells are not plentiful enough, or functioning well enough, to scavenge the invaders whole. Instead, a portion of the pathogen breaks apart, spewing its toxic waste into the bloodstream. (Many of these microorganisms, when threatened or dying, leak toxins from their walls to defend against a counterattack by the host.) A pathogen may also rupture, rather than simply become immobilized, due to drugs or anti-microbial herbs in the system, or electromedicine protocols (such as Rife Therapy) that use beneficial frequencies to devitalize microorganisms.

Most people haven't heard of the mycotoxin called acetaldehyde, which is excreted by Candida albicans. They are, however, familiar with acetaldehyde's breakdown products, which are also found in many foods: oxalic acid, uric acid, and alcohol.

Oxalic acid is a common food toxin, present in large amounts in tomatoes. If foods containing oxalic acid are eaten by a susceptible person continually, in large enough quantities—as in the concentrated form of tomato sauce—oxalic acid can cause inflammation in the joints.

Uric acid cannot be destroyed by the body. If the acid isn't excreted by the kidneys, it crystallizes as kidney stones.

As for alcohol, reframing this legal drug as a toxin offers a different perspective from how it's ordinarily viewed. Alcoholic beverages are produced when a fruit or grain is allowed to ferment. During the fermentation process (which by definition takes place in the absence of oxygen), the yeast feeds on the food sugars and excretes the desired alcohol. But alcohol is actually a waste product—yeast poop! Its rapid metabolization by the body can cause liver damage. And alcohol interrupts the transmission of signals across neurons, which people experience as intoxication and for the most part consider enjoyable.

The foul waste from pathogens is commonly known as *die-off*. As sick people know, die-off feels terrible. The more noxious the waste is that's discharged into the body, the more ill we feel. The body reacts to this assault by registering pain (the nerves are being irritated by toxins), by malfunctioning (microbial toxins further disrupt the body's pH and impede waste removal), or by swelling (to contain the infection). Chapters 3 and 4 address how to deal with this waste.

Toxic Bodily Responses

Illness can result from noxious biochemicals, hormones, or other *endogenous* substances—*produced by the body itself*— *in response to microbial or any other toxins*.

One example is a *cyst*, or a sac that contains liquid. Cysts form around foreign material in the body to contain it and prevent the rest of the system from being poisoned. Conventional doctors often perceive a cyst as the medical condition itself rather than as an expression of a deeper malfunction. In their paradigm, the cyst is the cause of a problem rather than the effect. The body's attempts to protect itself, while not always convenient or efficient, do demonstrate an effort to achieve equilibrium. The holistic model recognizes that the body's formation of cysts is related to an impaired waste removal function.

Another example of a toxic bodily response is deranged macrophage activity. Primarily located in the bloodstream and connective tissue, a macrophage is a type of white blood cell that recognizes, engulfs and destroys pathogens, the body's own dead cells, and other microscopic debris. However, the immune function of these cells can fail if the body signals too much inflammation. When there's an overabundance of inflammatory cytokines, macrophages (and other cells) release the protein-digesting enzyme protease into the tissues, causing severe damage. Once the body's tissues are damaged, the cells leak magnesium and potassium, allowing an influx of water and sodium. This causes a reduction of cellular charge (electrons), with a concurrent oxygen shortage. In the absence of oxygen, the cells must now burn fuel in a different, less efficient way. This inefficient burning of fuel now produces *lactic acid*, a byproduct of *anaerobic* (oxygen-deprived) metabolism. To protect themselves from this excess acid, the cells dump it into the extracellular fluids. The acidic waste buildup, in turn, leads to pathogen proliferation and even cancer.

One more example. In people of normal weight, the macrophages in fat heal wounds. In obsese people, the macrophages promote inflammation and insulin resistance.

Toxic bodily responses are always related to illness.

Lack of Exercise and Movement

Exercise is now part of every holistic and conventional health program. Sitting at desks daily, for hours at a time, is not part of our evolutionary development. We were naturally made to move. Even gentle walking pumps the lymph tissue, makes our hearts stronger, and helps the body create its own endorphins, those biochemicals that elevate mood and stem inflammation. See Chapter 3, **Exercise**, for more information.

Emotions and Belief Systems

The final, but very important, component to becoming ill is one's emotional state and belief systems.

Emotional states include joy, anger, love, rage, sadness, and excitement. "E-motion" is *energy in motion*, which corresponds to the body's electrical and chemical messengers. Electrical messengers are the charge that energizes the nervous system. Chemical messengers are the minute amounts of hormones that circulate throughout the bloodstream. For instance, fear and depression occur simultaneously with the outpouring of the fight-or-flight corticosteroid adrenal hormones.

A feeling can be divided into two parts: the emotional content, and the urge to express the emotion through action. For instance, love (the emotion) is a tangible energy or charge. It builds up, expanding the heart and chest cavity in a pleasurable way. When the energy substantially accumulates, people feel a need to discharge that energy. This is often done through a hug or other affectionate touch (the act), which allows the built-up energy to flow out from the chest through the shoulders, arms and hands. Sadness (the emotion) is accompanied by crying and sobbing (the act) to discharge the energy, and so on.

Holding back from expressing an emotion generally begins as a conscious behavior, and people are aware of their choice. But over time, if the emotional issue is not resolved, this holding back becomes unconscious or automatic, beneath one's level of awareness. At one time or another, most of us have probably held our breath when faced with dread, fear, or other uncomfortable emotions. More chronic, habituated responses to avoid feeling deeply include shallow breathing (which inhibits the natural biological response or act of vocalizing those emotions) and biting the lower lip and tensing the abdominal muscles and diaphragm (to prevent sobbing). Once the reason for holding back is not addressed, the muscular contraction that initially was deliberate becomes automatic, so the person is no longer aware of the emotion being held in the tensed muscles.

X-rays are dangerous because they consist of *ionizing radiation*—very short, high-frequency electromagnetic wavelengths that are so powerful, they knock electrons in atoms off their orbits. This causes permanent damage on the cellular level, leading to genetic mutations and cancer. "Even though by now it is popular knowledge that X-rays may cause cancer," Colbin wrote, "over 300 million of them are ordered yearly *without medical need*. Radiation from diagnostic X-rays is implicated in cancer, blood disorders, tumors of the central nervous system, diabetes, stroke, and cataracts." X-rays, along with other tests such as CT scans, mammography and fluoroscopy, are cited by Null et. al. as "a contributing factor to 75% of new cancers."

The mammogram—heavily marketed to women as essential to detect breast cancer early—is an X-ray. Mammograms are supposed to detects "spots" on the breast that don't belong and are thus assumed to be cancerous. Mammograms are routinely promoted so that treatment for cancer can begin immediately. Not receiving a mammogram during a routine medical exam is regarded as abnormal, foolish, and dangerous. In fact, the American Cancer Society recommends that women over 40 years old get "screened" (another euphamistic word) annually. But in November 2009, the US Preventive Services Task Force (a federal advisory board) stated that annual mammograms for women under 50 years old weren't necessary, and were needed only every two years after that.

Mammograms are unnecessary, dangerous, inaccurate, and costly. Note the title of a 2015 study, "National expenditure for false-positive mammograms and breast cancer overdiagnoses estimated at \$4 billion a year." A mammogram cannot detect cancer in almost 73% of women whose breast tissue is exceptionally dense. Most women under 40 have dense breast tissue. A 2011 edition of *The Lancet Oncology* showed that women who received the most number of mammograms had a higher incidence of invasive breast cancer during the next six years than a control group who received fewer mammograms. A thermogram, which is a far infrared test that uses the body's own heat to create images, is a safe, effective way to detect breast cancer; but it's not publicized by doctors.

The statistics compiled by Null and colleagues have been confirmed by newer findings. In August 2013, the *Mayo Clinic Proceedings* described medical testing, procedures and treatments that didn't produce the expected results. More than half were found to have no benefit, and many caused harm. "In a prior investigation of one year of publications in a high-impact [medical] journal, we found that . . . 46% constituted medical reversals [setbacks]." ³³

Dangerous tests will continue as long as people consent to receiving them and are willing to pay for them.

IATROGENIC (DOCTOR-CAUSED) DISEASE AND PREVENTABLE DEATHS

Deaths resulting from overmedication, prescription errors, invasive testing, surgeries, and hospitalizations (someone catches an infection while being hospitalized, and dies), are so commonplace that there is a name for these occurrences: *iatrogenic illness* or *iatrogenic disease*. These deaths are even more tragic considering that 8.9 million people were hospitalized unnecessarily in the year 2001 alone. ³⁴

Drug latrogenesis

Harrison's Principles of Internal Medicine states that a "side" effect from drug-induced diseases—death—"in hospitalized patients varies from 2% to 12%." ³⁵ Each hospitalized person is given about 10 different drugs.

A 1998 study indicates that over 100,000 Americans a year die from harmful reactions to medications. The deaths "are not due to mistakes by doctors in prescribing drugs or by patients in using them. Rather, drug reactions occur because virtually all medications can have bad side effects in some people, *even when taken in proper doses*. [emphasis added] 'We want to increase awareness that drugs have a toxic component,' said Dr. Bruce Pomeranz, an author of the study and a professor of neuroscience at the University of Toronto. 'It's not rare.'" There are other mistakes too. Null et al. cite a 2002 study showing that "20% of hospital medications for patients had dosage mistakes. Nearly 40% of these errors were considered potentially harmful to the patient. In a typical 300-patient hospital the number of errors per day were 40." "

Simply put, the fourth leading cause of death in America, after cancer, heart disease and stroke, is reactions to "safe" over-the-counter drugs and "properly" prescribed prescription medicine. Is the prescribing of most medicine, then, truly proper?

Will Doctors Take Their Own Medicine?

Professor John Saunders, who chairs the ethical issues committee of the Royal College of Physicians, certainly believes that there are circumstances in which doctors should be volunteers in their own trials. Having been a subject in his own research in the past, he says: "I think it is perfectly legitimate for people to say: 'If you aren't prepared to undergo this experiment on yourself, how dare you expect others to do so.'"

—"Doctors Who Had a Taste of Their Own Medicine," June 10, 2006

www.timesonline.co.uk/article/0,8123-2217159,00.html

FDA Scientists Feel Pressured To Lie

The Union of Concerned Scientists (UCS) . . . released survey results that demonstrate pervasive and dangerous political influence of science at the Food and Drug Administration (FDA). Of the 997 FDA scientists who responded to the survey, nearly one-fifth (18.4%) said that they "have been asked, for non-scientific reasons, to inappropriately exclude or alter technical information or their conclusions in a FDA scientific document." . . .

The UCS survey, which was co-sponsored by Public Employees for Environmental Responsibility, was sent to 5,918 FDA scientists. Forty percent of respondents fear retaliation for voicing safety concerns in public. This fear, scientists say, combines with other pressures to compromise the agency's ability to protect public health and safety. More than a third of the respondents did not feel they could express safety concerns even inside the agency. . . . [Also:]

- 61% of the respondents knew of cases where "Department of Health and Human Services or FDA political appointees have inappropriately injected themselves into FDA determinations or actions."
- Only 47% think the "FDA routinely provides complete and accurate information to the public."
- 81% agreed that the "public would be better served if the independence and authority of FDA post-market safety systems were strengthened."
- 70% disagree with the statement that FDA
 has sufficient resources to perform effectively
 its mission of "protecting public health . . .
 and helping to get accurate science-based
 information they need to use medicines and
 foods to improve their health."

To address the concerns raised by FDA scientists, UCS recommends:

- Accountability. FDA leadership must face consequences if they side with commercial or political interests and not with the American people.
- Transparency. Scientific research and reviews should be open so any undue manipulation is immediately apparent.
- Protection. Safeguards must be put in place for all government scientists who speak out.

—Union of Concerned Scientists

"FDA Scientists Pressured to Exclude, Alter Findings;
Scientists Fear Retaliation for Voicing Safety Concerns"

July 20, 2006

Hospital Infections

Back in 1986, Colbin reported "the most rapidly spreading epidemic of the 20th century," citing "over 2 million infections a year" in American hospitals, that resulted in "60 to 80 thousand deaths." Data analyzed in 2002 by *The Chicago Tribune* from patient databases, court cases, 5810 hospitals, and 75 federal and state agencies, found "103,000 cases of death due to hospital infections, 75% of which were preventable." [original emphasis] By 2011, according to the Centers for Disease Control, the number of hospital-acquired infections (in hospitals solely devoted to acute care) had escalated to 722,000. Almost ten percent of those infected, died. ⁴⁰

Deaths from Surgeries and Tests

Colbin wrote that an "estimated 2.5 million operations a year are performed without real medical need, resulting in some 12 thousand needless deaths." Statistics compiled by Null and colleagues gave comparative numbers 25 years apart for unnecessary surgeries. In 1974, 2.4 million unnecessary surgeries were performed annually, resulting in 11,900 deaths. In 2001, 7.5 million unnecessary surgical procedures were performed, resulting in 37,136 deaths. ⁴²

Combined Statistics

In 2003, Null et al. wrote that the total number of iatrogenic deaths yearly, in hospitals, is 783,936. The deaths were surgery-related, and were from adverse drug reactions, medical error (unspecified), bedsores, infection, malnutrition, and useless procedures. "We could have an even higher death rate by using [another statistician's differently calculated] . . . medical and drug error rate of 3 million. . . . The American medical system is the leading cause of death and injury in the United States." [emphasis added] ⁴³

Is "Death By Medicine" still relevant? Sadly, yes. A 2010 New England Journal of Medicine article found that 18% of people admitted to hospitals were injured by medical care (some repeatedly); over 63% of the injuries could have been prevented; and in about 2.5% of the cases, the problems caused, or contributed to, death. "We found that harms remain common, with little evidence of widespread improvement." An article in the September 2013 issue of Journal of Patient Safety pointed to another grim statistic: each year, between 210,000 and 440,000 people who are admitted to the hospital suffer some type of preventable harm that contributes to their death. ⁴⁵ Do you have confidence in a hospital stay if you get sick?



The Politics of Price Gouging

- The claim that drugs are a \$200 billion industry is an understatement. According to government sources, that is roughly how much Americans spent on prescription drugs in 2002.... But it does not include the large amounts spent for drugs administered in hospitals, nursing homes, or doctors' offices (as is the case for many cancer drugs). In most analyses, they are allocated to costs for those facilities.... So the \$200 billion colossus is really a \$400 billion megacolossus.
- The people hurting most are senior citizens. . . . In 2002, the average price of the 50 drugs most used by senior citizens was nearly \$1,500 for a year's supply.
- More people . . . trade off drugs against home heating or food. Some people try to string out their drugs by taking them less often than prescribed, or sharing them with a spouse. Others, too embarrassed to admit that they can't afford to pay for drugs, leave their doctors' offices with prescriptions in hand but don't have them filled. Not only do these patients go without needed treatment but their doctors sometimes wrongly conclude that the drugs they prescribed haven't worked and prescribe yet others—thus compounding the problem. . . . In one of the more perverse of the pharmaceutical industry's practices, prices are much higher for precisely the people who most need the drugs and can least afford them.
- In 2001, the ten American drug companies in the Fortune 500 list (not quite the same as the top ten worldwide, but their profit margins are much the same) ranked far above all other American industries in average net return, whether as a percentage of sales (18.5%), of assets (16.3%), or of shareholders' equity (33.2%). These are astonishing margins. For comparison, the median net return for all other industries in the Fortune 500 was only 3.3% of sales. Commercial banking, itself no slouch as an aggressive industry with many friends in high places, was a distant second, at 13.5% of sales. . . . The most startling fact about 2002 is that the combined profits for the ten drug companies in the Fortune 500 (\$35.9 billion) were more than the profits for all the other 490 businesses put together (\$33.7 billion). . . . When I say this is a profitable industry, I mean really profitable. It is difficult to conceive of how awash in money Big Pharma is.
- Research & Development (R&D) is a relatively small part of the budgets of the big drug companies—dwarfed by their vast expenditures on marketing and administration, and smaller even than profits.... The prices [that] drug companies charge have little relationship to the costs of making the drugs and could be cut dramatically without coming anywhere close to threatening R&D.... The biggest single item in the budget is neither R&D nor even profits but something usually called "marketing and administration." ... In 1990, a staggering 36% of sales revenues went into this category, and that proportion remained about the same for over a decade. Note that this is two and a half times the expenditures for R&D.
- One could hope drug companies would decide to make some changes—trim their prices, or at least make them more equitable, and put more of their money into trying to discover genuinely innovative drugs, instead of just talking about it. But that is not what is happening. Instead, drug companies are . . . marketing their me-too [copycat] drugs even more relentlessly [as well as] pouring more money into lobbying and political campaigns.

—Marcia Angell, MD
excerpted from "The Truth About the Drug Companies," New York Review of Books, 2004
and
The Truth About the Drug Companies: How They Deceive Us and What to Do About It, 2004

Big Pharma, reported CPI, also funds pending legislation, having contributed \$83 million "to lobby on the California health care and drug discount referendum issue in 2005." The referendum would have given discounts for prescriptions to low and middle-income people. On the surface, this discount may seem innocuous or even helpful. However, this bill allocated the funds from taxes foisted on taxpayers, with Big Pharma as the primary beneficiary. Fortunately, Californians defeated the bill.

In 2010, Americans for Campaign Reform posted a fact sheet (www.acrreform.org) on the politician-drug

industry collaboration. And "Who Owns Congress?", an article in the non-mainstream magazine *Mother Jones*, succinctly divided up members of the United States Congress and Senate based not on political party affiliation, but on the industries that had given them money. ⁸³ There are many politicians with conflicts of interest—that is, financial ties to Big Pharma. They support bills favorable to the drug industry in exchange for having been given huge sums of money for their election campaigns. After serving their political term, they might go to work for the drug companies.

HOW DRUGS ARE MARKETED

Standard, common sense language usage indicates that the approval of drugs and the marketing of drugs are two distinctly separate issues. But the cozy relationship between the drug industry and the FDA has merged the two. Billions of dollars a year in advertising help persuade people to take medications. So, let's examine how drugs are marketed.

Corporate-Owned Media

Some readers may like to shop at "mom and pop" businesses—small stores owned by people who live in the neighborhood, and which don't have huge corporations as competitors. A good example is an independent, cozy little coffee shop instead of a Starbucks. Local stores aren't the only businesses forced by mega-corporations to close their doors, though. Once there were privately owned book, newspaper and magazine publishers, as well as independent TV and radio stations.

Today, the word "independent" does not describe major media at all. A handful of corporations own the media in the United States. These corporations decide what the public will read, see, watch, and hear. Their intention is to feed us their version of the truth, and have us believe it.

Ben Bagdikian is intimately familiar with the media. In his 1983 book, *The Media Monopoly*, he warned that the 50 corporations that owned the majority of all news media in the US were becoming much too powerful. ("Media" includes all printed and electronic means of information.) Critics laughed at him. In the 4th edition of his book, published just nine years later, Bagdikian pointed out that less than two dozen corporations owned 90% of the mass media. He predicted that eventually this number would drop to about a half dozen companies. By 2000, the publication date of the 6th edition of *The Media Monopoly*, Bagdikian's prediction had proved uncannily prescient: the number of media monopolies had dropped to six. Since 2000, more media mergers have occurred. The expanding media giants now include the Internet market, and there are no signs anytime soon that they will stop trying to control even more public access to information—and hence, the public's consciousness.

In 2004, Bagdikian's (again) revised and expanded *The New Media Monopoly* documented more mergers.

These five [corporations] are not just large, though they are all among the 325 largest corporations in the world . . . [They're] a major factor in changing the politics of the United States and they condition the social values of children and adults alike. These five huge corporations—Time Warner, Disney, Murdoch's News Corporation, Bertelsmann of Germany, and Viacom (formerly CBS)—own most of the newspapers, magazines, books, radio and TV stations, and movie studios of the United States. . . . General Electric's NBC [is] a close sixth. 99

The dumbing down of America is most evident in the slow decay of substantive content in the enormously influential media, the 30 second sound bites (now down to 10 seconds or less), lowest common denominator programming, credulous presentations on pseudoscience and superstition, but especially a kind of celebration of ignorance.

—Carl Sagan American astronomer, astrophysicist and author in *The Demon-Haunted World:* Science as a Candle in the Dark (1934–1996) Bagdikian also discussed the effects of these corporations on popular culture:

They manufacture politics and social values. The media conglomerates...have almost single-handedly as a group, in their radio and television dominance, produced a coarse and vulgar culture that celebrates the most demeaning characteristics in the human psyche—greed, deceit, and

cheating as a legitimate way to win (as in the various "reality" shows). . . . [They're also] a major factor in . . . television's increasing crudity and violence because such programs are the cheapest to produce.

These five conglomerates have newspapers and broadcast stations in cities and towns all over the United States, but local people have no voice in what they see and hear, even though, under law, the American public owns the air waves. The five giants fight each other for high ratings in radio and TV, but unseen by the average American, they are quietly corporate partners in joint ventures that make them more like a cartel of interlocked companies. ¹⁰⁰

Corporations influence every continent. This is why, decades ago, NBC was able to suppress a news story on the dangers of nuclear power plants. General Electric owns NBC as well as many nuclear plants, and didn't want its stock to fall. Corporate-media marriage also explains why drugs and surgery are pushed, and holistic modalities are ignored, trivialized and slandered. It also explains why most people in the US still haven't heard of Rife Therapy.

Note that six companies own the majority of publications in the science and medical fields.

The Myth of "Peer-Reviewed" Studies

The presumably objective "peer review" process—typical of most scientific journals—is as biased as write-ups from the pharmaceutical companies. In fact, peer review is seriously, scientifically flawed. In "Something Rotten at the Core of Science?" the author writes:

A recent US Supreme Court decision and an analysis of the peer review system substantiate complaints about this fundamental aspect of scientific research. Far from filtering out junk science, peer review may be blocking the flow of innovation and corrupting public support of science. . . . [As] most reviewers are likely to be mainstream and broadly supportive of the existing organization of the scientific enterprise, it would not be surprising if the likelihood of support for truly innovative research was considerably less than that provided by chance. 101

As the few powerful, wealthy corporations buy smaller companies and make their media empires even larger, the public's access to the truth becomes even more restricted. This is why I make the effort to seek information from "alternative" sources, both in print publications and on the Internet.

Industry Ties to Medical Journals

An interesting piece, "Scientists Often Mum About Ties to Industry," appeared in *The New York Times* in 2001.

Scientists who report research findings are expected to divulge any financial ties that might influence their work. But often they do not. . . .

In reviewing 61,134 scholarly articles published in 181 academic journals in 1997, researchers at Tufts University and the University of California at Los Angeles found that just one-half of one percent detailed personal financial interests, including consulting arrangements, honorariums, expert witness fees, company equity and stock, and patents. All of those few disclosures appeared in just a third of the 181 journals. . . . As many as half of all academic researchers consult with industry. . . . Journal editors [says one expert] "are not forceful enough" in requiring disclosure, "or there is widespread disobedience" of their rules. 102

This conflict-of-interest problem became so serious that in 2000, The New England Journal of Medicine apologized to its readers for violating its own rules. It had published "reviews of the medical literature on drug therapies despite the reviewers' financial relationships with the companies marketing the drugs." 103

Industry-Sponsored, Ghostwritten, and Computer-Generated Articles

Ghostwritten papers from medical school doctors are common. In 2001, drug manufacturer Wyeth-Ayerst hired a company called Excerpta Medica to create a market for its diet drug Redux®. To create this market, Excerpta paid doctors to review and sign articles that were submitted to nine medical journals, without telling the doctors that it (and they) were being funded by Wyeth. Excerpta claimed that the doctors knew about Wyeth's funding of the supposedly objective articles. But Dr. Richard Atkinson, professor of Medicine and Nutritional Sciences and the director of the Beers-Murphy Clinical Nutrition Center at the University of Wisconsin Madison Medical School—who reviewed and signed one of the Redux® papers—refuted this claim. "If I knew that a drug company had some role, in sponsoring a talk, an article, a symposium, whatever," he stated, "I think I would be more on my guard to make sure that there was not any bias introduced." Excerpta Medica did not use the term "ghostwrite." It said that the authors "facilitate." 104 Eventually, when Redux® was linked to heart and lung problems, it was pulled from the market and no more promotional articles about it were written.

The Redux® fiasco is a common example of how respected medical journals and otherwise honest doctors become entrapped. Less common—but typical of our electronic age—are computer-generated "studies," thanks to a program called SCIgen that was invented in 2005 by three graduates of Massachusetts Institute of Technology. Over 200 fake papers from this program were published in journals. In response, a French computer scientist developed a program to analyze whether a study is computer-generated.

Data in Scientific Journals Not Even Correct

Another scandal in the medical and scientific community emerged in the last decade. Large numbers of journal articles were found to be incorrect, and had to be recanted. The authors of these articles did more than "merely" omit data or misrepresent it—they outright invented facts! Most media tried to soften the impact by using euphemisms such as "misleading" and "exaggeration," but the researchers outright lied. In fact, one article bore the title, "Are scientists lying more than ever?" "The percentage of scientific articles retracted Antipsychotic or Neuroleptic Drugs (Phenothazines). Used for diagnosed psychosis, schizophrenia, bipolar disorder (the manic aspect of manic-depression), occasionally depression, and Tourette's syndrome (excessive movements and verbal tics). Doctors believe that these drugs tranquilize the brain by blocking transmissions that utilize the energizing neurotransmitter dopamine. The drugs bind to the dopamine receptor site and usually depress the nervous system; but sometimes they cause restlessness and akathisia (the inability to remain still). Phenothazine was first introduced by DuPont in 1935 as an insecticide. Pharmacologically, Phenothazine is further divided into three sub-groups; but for the purposes of this Insert all types are grouped together.

Natural Substitutes: Foods high in Omega 3 fatty acids, such as wild salmon, cod liver oil and grass fed beef). Specialized supplementation: includes amino acids glycine and sarcosine; zinc; magnesium; and antioxidants (Vitamins C and E, and Alpha Lipoic Acid), which help repair damage caused by long-term use of neuroleptic drugs. Holistic doctors also remove gluten from the diet.

◆ Chlorpromazine Hydrochloride (Thorazine®, Largactil®, Megaphen®, Promapar®). Used to treat diagnosed schizophrenia, psychotic disorders, the manic phase of bipolar disorder, manic-depression, and perceived severe behavior problems in children age 1 through 12.

Effects: low or irregular blood pressure; breast swelling or discharge; digestive disturbances (abdominal or stomach pain, constipation, nausea and vomiting); dizziness; drowziness; dry mouth; headache; heart palpitations; nasal congestion; neck spasms; sexual difficulties (problems with orgasm or erection); blurred vision.

More possible physical effects, for which medical help is advised: balance problems; breathing difficulties; high fever; insomnia; jaundice (yellowing of the skin or eyes); joint pain; mouth sores and swollen gums; muscle twitching and other uncontrolled movements; muscle rigidity; skin bleeding or bruising; difficulty swallowing; tremors and fainting; weight gain.

More possible psychiatric effects, for which medical help is advised: agitation and restlessness; confusion; unusual thoughts or behaviors; increased deaths in elderly persons diagnosed with dementia-related psychosis.

◆ Haloperidol (Haldol®). Used to treat diagnosed schizophrenia, psychotic disorders and the manic aspect of manic-depressive disorder, to control perceived behavior problems in children, and to manage excessive motor movements and verbal tics (as in Tourette's syndrome). This drug is about fifty times stronger than Chlorpromazine (see above). Haloperidol is in its own group but also contains Phenothazine, so is included here.

Effects: anxiety and restlessness; breast enlargement; confusion; digestive disturbances (constipation, diarrhea, nausea and vomiting); drowsiness; dry mouth; headache; insomnia; rigid muscles or uncontrolled movements and twitching of limbs and face; sexual difficulties; speech problems; difficulty urinating; blurred vision.

More possible physical effects, for which medical help is advised: balance problems, dizziness or sensation of spinning; breathing difficulties; cancer risk; chest pain; cough with yellow or green mucus; fainting; swollen gums or mouth sores; erratic or pounding heartbeat; high fever; insomnia; jaundice (yellowing in eyes or skin); joint pain; mouth sores and swollen gums; muscle twitching and other uncontrolled movements; muscle rigidity; skin bleeding, bruising, itching or rash; neck or throat spasms; difficulty swallowing; tremors, fainting and seizures; weight gain. Unexpected deaths.

More possible psychiatric effects, for which medical help is advised: agitation; hallucinations.

◆ Other Phenothazine and Related Drugs: Acetophenazine (Tindal®), Amitriptyline Hydrochloride (Estrafon®), Aripiprazole (Abilify®), Clozapine (Clopine®, Clozaril®, Denzapine®, FazaClo®, Synthon®, Versacloz®, Zaponex®), Fluphenazine Hydrochloride (Permitil®, Prolixin®), Loxapine (Loxitane®), Mesoridazine (Serentil®), Olanzapine (Lanzek®, Zypadhera®, Zyprexa®), Perphenazine Hydrochloride (Trilafon®), Prochlorperazine (Compazine®, Compro®, Procomp®), Promazine (Sparine), Quetiapine (Seroquel®), Risperidone (Risperdal®), Thioridazine Hydrochloride (Mellaril®), Trifluoperazine Hydrochloride (Stelazine®), Ziprasidone (Geodon®)





Its name is Public Opinion. It is held in reverence. It settles everything. Some think it is the voice of God. Loyalty to petrified opinion never yet broke a chain or freed a human soul.

—Mark Twain, American writer, critic and humorist (1835–1910)



Chapter 2 Outline The History of Pleomorphism and the Inventions of Royal Raymond Rife

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The Rife Ray

It was in "The New Microscopes" article that readers also learned about "certain lethal frequencies": the fields emitted by the Rife Ray, which Royal Rife created eleven years after the debut of his Universal Microscope.

Under the universal microscope . . . tuberculosis, cancer, sarcoma, streptococcus, typhoid, staphylococcus, leprosy, hoof and mouth disease, and others [pathogens] may be observed to succumb when exposed to certain lethal frequencies, coordinated with the particular frequencies peculiar to each individual organism, and directed upon them by rays covering a wide range of waves. By means of a camera attachment and a motion-picture camera not built into the instrument, many "still" micrographs as well as hundreds of feet of motion-picture film bear witness to the complete life cycles of numerous organisms. ²⁵

Rife designed several styles of ray equipment. There are at least four numbers that historians have used to designate the machines, but it wasn't clear when these units were begun or finished, or when they were formally used. We do know that the earliest one, built in the 1920s, killed *E. coli* (called *B. coli* then), a common bacterium that lives in the colon. Rife continued developing his ray equipment throughout the 1930s. In 1934, he built what some people today refer to as the Rife Ray #3. It was comprised of several bulky pieces that filled a large table in Rife's laboratory, making it not only difficult to move but also labor intensive to calibrate and operate. To produce the frequencies, the Rife Ray #3 used a Kennedy brand off-the-shelf radio receiver, which Rife also used as a transmitter. The Kennedy brand receivers were regenerative, which simply means that they had built-in components designed to amplify the electronic signal so it would be stronger. However, as the Kennedy receivers were not *shielded* (more about this in a moment), other types were probably preferred in the final designs.

Frequencies were emitted from the glass ray tube, which was mounted on a base on the outside of the cabinet and connected to the receiver. The ray tube used for the Rife Ray was similar to X-ray machine tubes of the era. However, it didn't produce X-rays because X-rays are created in a vacuum, and this ray tube contained an inert gas. Rife initially experimented with mixtures of different noble gases, including argon and krypton. He eventually chose helium because it withstood "many more hours of bombardment" ²⁶ than the other gases he tried. The gas-filled tube became brightly lit when a frequency of sufficient power was passed through it.

Presumed to have been more powerful than its predecessors, the Rife Ray #3 outputted about 50 watts to the tube. Fifty watts was enough power so that the frequencies emitted by the tube could penetrate through 15 inches of concrete. Even when the Rife Ray was one floor away from where the microscope stood, Rife demonstrated that after about ten minutes, every specimen beneath his microscope died after the machine was turned on briefly. The pathogens were devitalized not by the visible light emitted by the tube, but by the *electromagnetic* field, which includes electric and magnetic waves. Other bandwidth energies contributing to this effect may have included infrared and scalar waves (discussed in more detail shortly). Modern researchers sometimes refer to these combined fields as the "Rife effect." The range of frequencies that Rife generally used were 190 KHz (kilohertz) to 12 MHz (megahertz).

Some components of the radio equipment included vacuum tubes. Housed inside the cabinet, the vacuum tubes were entirely different from the ray tube that was mounted on the outside of the cabinet. Vacuum tubes were somewhat fragile and bulky, used a lot of energy, and overheated easily. That is why engineers developed the transistor in the late 1940s. Unlike a hollow tube, the transistor was solid (hence the phrase, "solid state technology"). Transistors possessed all the beneficial electrical properties of vacuum tubes without any of their shortcomings. They were sturdy, inexpensive and tiny, used very little power, and could immediately turn on without requiring any warm-up time. Today, virtually all electronic apparatuses (including electromedical devices) use solid state technology instead of vacuum tubes.

Galloping Gerty: the MOR of a Bridge

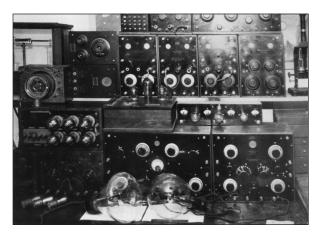
The Tacoma Narrows suspension bridge in the northwestern United States—now better known as "Galloping Gerty"—is quite famous because of the spectacular manner in which the structurally defective bridge collapsed over seven decades ago. The destruction happened to be captured on motion picture film, clips of which can be seen on the Internet. In 1940, the mile-long (1.6 kilometer) bridge shattered when a steady wind provided so much energy that the bridge began shaking. When the oscillations became intense enough, the entire bridge collapsed.

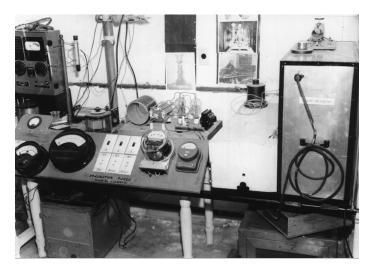
The shattering of the bridge provides an excellent analogy to the Mortal Oscillatory Rate of various pathogens, which Royal Rife discovered in order to disable or outright destroy them. It took ten years before the replacement to the bridge was completed. Correctly targeted microorganisms aren't as lucky.



A collection of Kennedy and other brands of radio receivers that Rife experimented with at different times. Note the gas-filled transparent tube in front, used to convey the frequencies.

Courtesy of Rife Research Group of Canada

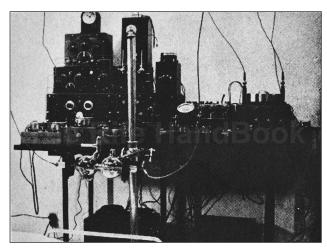




Unidentifiable equipment. Courtesy of Rife Research Group of Canada

Rife Ray No. 3, 1934, used in a clinical trial the same year.

Courtesy of Jeff Garff





Scalar Wave Properties

Electromagnetic (EM) waves and scalar waves are different. An EM field can be separated into distinct electrical and magnetic fields that are transverse, or transmit at right angles from their point of origin. Scalar waves—also known as longitudinal waves—are parallel to their point of origin. EM waves have a beginning, middle and end, with correspondingly uneven amounts of strength. Scalar waves are standing, with uniform amounts of strength. One common catalyst for the release of scalar waves is their coupling, or engaging, with an EM field. EM fields can be generated not only by electronic devices, but also by humans. Research by Dr. Valerie Hunt focuses on human healers who emit not only EM waves, but also scalar waves.

"The concept of scalar waves," writes British physicist Noel Huntley, "is beyond the scope of conventional science, but not quantum physics. The data on scalar waves from Maxwell's brilliant, original electromagnetic equations was removed prior to publication."27 Scalar waves are difficult to detect using standard equipment, as they do not register on an oscilloscope. Remarkably, though, conventionally trained engineers cite their incomplete education, inadequate measuring devices, and limited experience as proof that scalar waves do not exist. This is similar to some professionals who looked through Royal Rife's microscope and did not see various pleomorphic strains of the same microorganism because of their preconceptions.

Certain plasma tube units are uniquely suited to emitting scalar waves. The noble gas inside the tube is excited, the electrons of atoms are hurled into a higher orbit, and the chaotic-wave gas turns into higher-energy, coherentwave plasma (which moves in a spiral), known as the "fourth state of matter." Once the catalyst that caused this higher-energy state is withdrawn, the plasma collapses back into gas. In order for this collapse to occur, the plasma must release energy, one form of which consists of photons of light. The rapid move back and forth between states (gas to plasma to gas to plasma, etc.) is probably what initiates the production of scalar waves. Such waves are then received directly by certain cell structures that process and power metabolic functions. We can perceive scalar waves due to their effects: the restoration of biological tissue, and the proper function of living organisms.

practitioner placed the tube either within a few inches of the subject's body or, in some cases, directly on the person. Dr. Robert P. Stafford, a colleague of Rife, reported that when he treated people who had cancer, he focused on six square inches at a time, slowly moving the tube so that eventually it covered the entire affected area of the body.

The Rife Ray's ability to eliminate pathogens was based on Rife's finding each organism's MOR, or Mortal Oscillatory Rate, and dialing those frequencies into the machine. The May 6, 1938 edition of the San Diego Evening Tribune carried a now-famous article by Newell Jones explaining how the microorganisms died, through a process called *entrainment*.

Each organism requires a different wavelength. . . . [An analogy is] something similar to . . . when one musical tuning fork is set in vibration by sound waves emanating from another fork struck nearby. Another example is the vibration which almost everyone has noticed a pipe-organ note causes in windows or furniture of the room where the instrument is being played. Again, a similar thing happens when a radio cabinet rattles from sounds passing from its speakers.

It is commonly known that the sound from the first object causes the second to vibrate in harmony. . . . The thing where the original soundproducing vibration occurs has the same pitch, wave length, [and] frequency . . . as the one giving the sympathetic response. . . . [One object may] have a frequency which only is a part of a complex frequency possessed by the other; that is, one may be a simpler tone which is one element in a complex tone characterizing the other. ²⁸

The destruction of a microorganism has also been compared to the cliché of a soprano singing a pure, focused tone that shatters a glass whose resonant frequency matches that particular tone. While this glass-shattering phenomenon is real, the analogy of sound to describe how Rife's equipment worked is technically incorrect. A sound wave is a mechanical motion. Rife's units could affect microorganisms through many inches of concrete, which can absorb mechanical motion (and thus prevent it from being transferred elsewhere). Therefore, something else was responsible for the destruction of pathogens: electroporation, the abnormal permeability of either a microbial cell wall or a human or animal cell membrane. The permeability is most pronounced during an energy transfer, or when there's a match in wavelength (frequency). The Rife Ray—through resonance, or the matching of wavelengths—transferred energy to a microbe's cell wall. This increase in energy disturbed the electrical charge of the pathogen, causing a change in shape and pattern,

which compromised its structural integrity. Due to this electroporation, a pathogen would begin to destabilize.

Today, we understand one more probable manifestation of Rife's technology: scalar waves. Scalar waves are not part of the electromagnetic (EM) spectrum. A few innovative researchers have proposed that some modern plasma units emit scalar waves (as Royal Rife's instrument apparently did as well)—and that these scalar waves help regenerate the body as well as possibly devitalize pathogens. See Sidebar, page 215, "Scalar Wave Properties."

When Rife finally did find the MOR, explains chiropractor James Bare (who holds the patent on the Bare-Rife frequency machine), the microorganism "would lose its color and become clear as it absorbed the resonant energy [of the frequency] and changed or died."29 Sometimes the pathogens shattered. Other times, they simply weakened and lost their motility (the ability to move spontaneously and actively). Jones explained that some pathogens "writhe as if in agony and finally gather together in deathly moving clusters." 30 "Some types," Rife himself stated, "will explode or disintegrate and some will gather together like log jams or agglutinate." 31

All of Rife's frequencies were specific to the organism. They had to be accurate. The inventor stated, "One tenth of one meter [or a smaller denomination] off and you have nothing. . . . [The frequency must] be absolutely correct for that individual organism." 32 (When Rife mentioned meters, he was referring to the *length of the wave* that corresponded to the actual frequency in Hz.)

How did Royal Rife determine the MOR of a pathogen? First he examined thousands of specimens and tissue cultures from laboratory animals and humans through the Universal Microscope. As usual, the microorganism was illuminated in its own colored light while the surrounding field remained white. Then Rife tested the samples to ensure that a specific disease correlated to a specific pathogen, using the allopathic medical model of Koch's cause-of-disease hypothesis. Finally, Rife would turn the dials of the Rife Ray ever so slightly, switch on the power, and then examine the slide under the microscope to see if this time he had found the correct frequency.

The entire process was tedious, repetitious, and solitary. However, Rife was used to working this way. He had used the same painstaking observational skills years earlier when he tuned the microscope, bathing pathogens in their own light so he could view them. His colleagues described him as a man of immense patience. "I've seen Roy sit in that doggone seat without moving, watching the changes in the frequency, watching when the time would come when the virus in the slide would be destroyed," said Benjamin Cullen, who watched the scientist regularly.

Twenty-four hours was nothing for him. Fortyeight hours. He had done it many times. Sit there without moving. He wouldn't touch anything except a little water. His nerves were just like cold steel. He never moved. His hands never quivered.

Of course he would train beforehand and go through a very careful workout afterward to build himself up again. But that is what I would call one of the most magnificent sights of human control and endurance I'd ever seen. 33

As far as we know, Rife's technology did not harm the human or animal host. The oscillatory rates of humans and small mammals are much different from, and more complex than, the MORs of microscopic viruses, bacteria, and fungi. Rife was confident about the safety of his equipment, he stated on numerous occasions.

With the power that is in these [ray tubes], there is absolutely no harm. . . . I had my [ray] tube right here . . . about 11 or 12 inches away from the slide in the microscope. And here I was with . . . that tube going . . . year after year . . . and it never harmed me any. 34

And:

I stood in front of that thing [his ray tube] for 30 years finding these different frequencies that devitalize these different bacteria. And that thing was shooting on me right here [his chest], but it is absolutely harmless to normal tissue. 35

The non-invasive nature of this new method, plus the promise that it held, began generating great excitement in the medical community. Now they needed more.

Case Studies

By the end of 1932, Rife was destroying the typhus bacteria and numerous viruses (including the ones for cancer) that were grown in cultures and inoculated into lab animals. His equipment was able to destroy these pathogens whether they were in Petri dishes or in living animals. Then, as now, standard scientific protocol for testing drugs and other medical treatments involved using two groups of infected animals: the group that received treatment, and the control group that did not. If significantly more animals in the treated group lived than did those in the control group, this presumably indicated that the treatment was effective.

To prove the effectiveness of the Rife Ray, Rife was obliged to follow standard medical procedure. He injected his rats with the disease organisms. Then he withheld treatment from the control group (all of whom died), and gave treatments to the other rats (all of whom lived). Within the confines of scientific protocol, Rife was kind to the animals. To spare them pain (which also made them easier to handle), he administered anesthesia before giving them injections or doing surgery.

Rife described the scientific protocol in detail:

On one series of cancer tests, I inoculated the virus which I had isolated and filtered from an unulcerated breast mass into an albino rat. The tumor was allowed to grow and then I surgically removed the tumor and again isolated and filtered the virus from a portion of the ground up tumor and inoculated the next rat and repeated this procedure 411 times to prove that this virus was the causative agent of cancer. ³⁶

Eventually, Rife had to prove that pathogens could be destroyed in humans without harming the host. To secure human subjects for his case studies, he sought the assistance of Dr. Milbank Johnson.

Johnson was the physician who had hosted the historic dinner honoring Kendall and Rife after the Universal

Microscope was completed. He was enormously wealthy, with assets reportedly worth around \$15 million. After receiving a Doctorate from Northwestern Medical School in 1893, Johnson was awarded a Doctor of Law degree in 1916 from the University of Southern California, and another degree in 1920 from Northwestern University. The medically-related posts he held during his illustrious career included Professor of Physiology and Clinical Medicine at the University of Southern California; Chairman of the Claims Committee of the Pacific Mutual Life Insurance Company in 1920 and Claims Director of that company for most of the years from 1906 until 1936 (his retirement); member of the board of directors at California's Pasadena General Hospital; Chief Surgeon of the Southern California Edison company; and member of the Los Angeles Board of Health.

Johnson's humanitarian nature and his determination to eliminate illness are amply demonstrated in his surviving letters. The fact that his first wife died in 1920 of cancer, along with a Streptococcus infection following radiation treatments, undoubtedly made him even more interested in Rife's clinics. It was Dr. Johnson who convinced Timken to help finance Rife's new laboratory, which was built around 1936. Generally, Johnson remained loyal and supportive to Rife for as long as the two men were in contact. Pivotal to all phases of Rife's career, Johnson advised and guided Rife. He generated publicity. And he helped Rife with projects.

Johnson himself initiated most (if not all) of Rife's clinical studies because Rife disliked the spotlight and preferred to focus on his laboratory research. To work with Rife, the doctor assembled some of the most prominent professionals with outstanding credentials (most of them had MD, PhD, or DDS degrees) from Canada, England, and the United States. These professionals did independent studies, performed laboratory research, and used the Rife Ray with paying clients as well. To test Rife's equipment on people with cancer and other illnesses, three clinics were set up, all of them funded by Johnson.

The first clinic, established in 1934, was at the La Jolla home of Ellen Scripps under the auspices of a University

of Southern California "Special Medical Research Committee." Rife referred to this committee later on a legal document, and this particular clinic is often cited as a success by proponents of the technology. However, Rife researcher Dave Felt, based on a surviving letter by Dr. Johnson, believes that this committee was unofficial and the university's name was used "in order to have some liability

coverage for Scripps because they were using her property. Johnson probably asked Dr. Rufus B. von KleinSmid, president of USC, if he could form the clinic under the umbrella of the university, and Von KleinSmid said yes."³⁷

Most of Milbank Johnson's letters have been recovered. However, those dated between June 1934 and early 1935 are missing, so we can only guess at what actually occurred. From Dr. Johnson's surviving letters, we learn that he had no help and no assistants, and that Rife's involvement in the 1934 clinic was minimal. In fact, Johnson had to plead with Rife—in many ways the quintessential scientist who secludes himself in his lab to get involved with the clinic. We know that between a dozen and 16 people were treated, most of them for cancer and a few for tuberculosis.

Of those in the 1934 study who were treated for cancer, some apparently did go into remission, because tissue and fluid samples sent to pathologist Alvin Foord at the Pasadena General Hospital were stated to be free of any traces of cancer. However, Johnson did report later that one man returned to him in the early part of 1935. The cancer in his cheek had not improved, so Johnson sent him to a hospital to have the corresponding eye, along with the malignant tissue behind the eye, surgically removed.

Those who say it cannot be done should not get in the way of the person doing it.

—Chinese proverb

had been doing all the repairs on Rife's equipment after Beam Rays Corporation closed. In the early 1940s, Thompson and Rife designed a new ray tube instrument that, although patterned after the best Beam Rays device, was quite different. The RF in the KHz and MHz ranges in Rife's previous instruments had interfered with radio broadcasts on at least one occasion, and could have done so in the future. So, to comply with the new law, this new device utilized low frequencies in the hertz Hz ranges. I'll discuss the details of this shortly; but for now, let's continue with the attacks on Rife.

The systematic attempts to undermine Rife continued. "The [American] Medical Association ruled," writes Vassilatos,

that no [state medical] society member who maintained use of the Rife Ray tube system would be permitted to continue medical practice in the United States. Morris Fishbein . . . extended his legal arm to inform each member of the Rife team of the impending legal process. All Ray tube units would be recalled, impounded, and destroyed by Federal Court order, under penalty of fines and imprisonment. ⁵⁴

The AMA did as it had threatened. It applied its clout with the state medical societies to forcibly close any clinic that was using ray equipment. Every doctor was threatened with the loss of his license and a malpractice lawsuit unless his unit was relinquished—a difficult constraint, as these doctors had paid for their machines. Dr. Richard Hamer, who had bought a Rife Ray in the late 1930s, was one of the physicians who reluctantly visited an AMA office, probably in San Diego. Rife researcher Dave Felt relays a conversation about that era with Dr. Hamer's son Don: "Dr. Hamer was told—we don't know by whom—to get rid of the machine or lose his MD license. Don said that

Corruption Has Many Faces

Alfred Sloan and Charles Kettering, the founders of the Memorial Sloan-Kettering Cancer Center in New York City, had long and prosperous careers at General Motors, the car manufacturer. Although Kettering discovered that adding grain alcohol to gasoline would boost mileage, eliminate knocking in the engine and limit poisonous fuel emissions, he later abandoned this high-performance gasoline formula in favor of inferior-performing lead additives that every industry mogul knew were highly toxic.

—summarized from "The Secret History of Lead" The Nation, March 20, 2000 his dad was really excited and happy with the machine, and that it worked extremely well. But he had to comply." ⁵⁵

Dr. James B. Couche, as well as his colleague Dr. Yale, refused to relinquish his machine. "These two surgeons later stated," Vassilatos reports,

that for 22 years after this action, they continued to successfully treat and cure thousands of patients with the Rife Ray tube devices which they secretly maintained. Dr. Yale published a large and concise chronological account of patients treated and cured in his practice throughout that 22-year period. Notwithstanding the fact that 60% of severe (cancer) cases brought him were medically [inoperable], incurable, and hopeless, Dr. Yale confirmed that all of these persons were yet alive and living happy, full lives. ⁵⁶

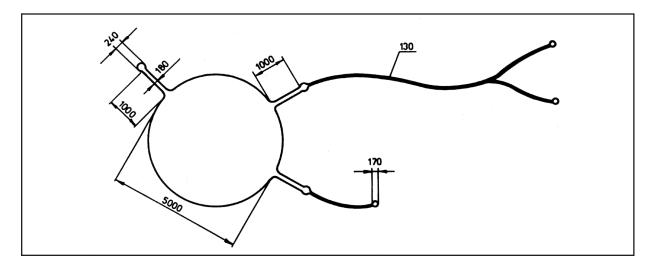
Threats and intimidation are key ploys used to coerce people into submission. However, successful suppression also means altering the historical record. This prevents people from realizing that things used to be different (better). With their memories altered or wiped clean, entire populations tend to remain more submissive and complacent. Vassilatos writes:

Fishbein, the editor and chief censor of the AMA, saw that Rife's name would be stricken from all . . . publications, that no professional journal would dare publish anything by Rife, and that no mention would ever be made of Rife's achievements in formal proceedings. Inescapably linked with the pharmaceutical trusts, Fishbein's actions were all too conspicuous. ⁵⁷

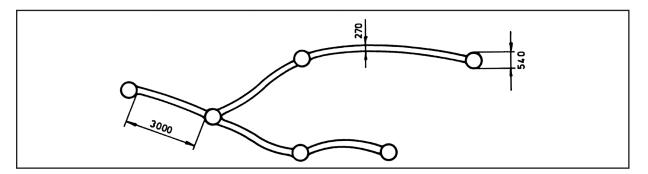
Barry Lynes recounts similar orchestrated attempts to rewrite history. Twenty years after the historic 1931 dinner honoring Kendall and Rife, some of the attendees denied that the Universal Microscope worked, that they had been present at the dinner, or that they even knew Royal Rife at all. These denials are astounding, considering that many of these people had been publicly quoted in newspapers and magazines as having worked alongside Rife—and that a photograph taken of the banquet attendees had been publicly distributed! The intimidation tactics must have been severe indeed.

One can only imagine how Rife must have felt after being betrayed by some of his formerly supportive colleagues. Consider Arthur Kendall, who isolated and noted the pleomorphic characteristics of typhoid bacillus with Rife, and then published a paper on their findings. After retiring to Mexico in 1942, he wrote to the California Department of Public Health that his

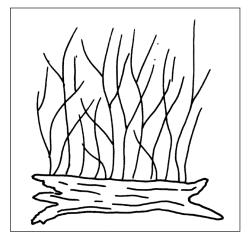
Cancer Parasites grow into fungal mycelia.



Here, the diameter of the erythrocyte is only about 5000 nm, whereas the tube-like tendrils emerging from the sphere are still about 1000 to 1250 nm. Pronounced ball-shaped formations are now developing at the ends.



The fungi threads separate from the erythrocytes. The ball-shaped formations have a diameter of about 540 nm.



From the shell of structure number 5 (see first, circular diagram of this series), fungal threads are now formed. This is most likely the stage where the metastases enter the blood.





Until a man duplicates a blade of grass, nature can laugh at his so-called scientific knowledge. Remedies from chemicals will never stand in favorable comparison with the products of nature, the living cell of a plant, the final result of the rays of the sun, the mother of all life.

—Thomas Alva Edison, American inventor (1847–1931)



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Living Water: Water's Fourth Phase

We have always learned that water has three states: liquid, solid (ice), and vapor (in various stages of evaporation such as fog or steam). However, scientist Gerald Pollack recently discovered that water has a fourth phase, what he calls exclusion zone, or EZ water. The anomalies that water displays under ordinary circumstances—for instance, there's no single temperature at which it freezes or boils, and it clusters together in particular ways depending on what it touches—led Pollack to his experiments and proofs.

EZ water is best described as a *liquid crystal*. This liquid-crystalline water has a unique ability: it stores energy, a virtually unlimited supply of electrons, in a manner very similar to that of a battery. All EZ water possesses a negative charge. The source of EZ water's energy is the sun, whose various electromagnetic wavelengths—visible light, ultraviolet and especially infrared (most powerful at about 270 nanometers)—imparts that energy, even in darkness. EZ water builds on any hydrophilic (water-loving) surface, including in a living body. The flow of EZ water is driven by protons. (This has enormous implications for understanding the pumping activity of the cardiovascular system.)

EZ water is *living*, alkaline water. It's not H₂O, which Pollack calls *bulk* water—but H₃O, which is structured and organized. Not coincidentally, the many healing waters of the Earth contain living water. They include India's river Ganges, the Lourdes in France, and Hunza glacial waters in Pakistan. We create living water in our bodies when we use far infrared saunas, LEDs and lasers, and lie in the sun. We also create living water in our bodies when we expose "regular" bulk water to these radiant energies, transform it into EZ water, and drink it.

This implications of this liquid-crystalline fourth phase water are truly profound.

For more information, read The Fourth Phase of Water.

The Relationship of Minerals to Water

To answer the questions asked on the previous page, I must redirect the discussion to the chemistry of minerals. All water (except for artificially created distilled water) contains minerals. So, the function and properties of water are intertwined with its mineral content. Please bear with me if I appear to digress too far from the topic; you will see how everything fits together by the end of this section.

Minerals rarely exist as single elements. They are usually *compounds*, combined with another element or elements—sometimes other solids, sometimes oxygen, sometimes water, and sometimes a combination of these.

Even if a mineral is referred to by its common (elemental) name that suggests the presence of only one element, there is always something to which it is bound. Calcium might be calcium chloride; magnesium, magnesium oxide; potassium, potassium iodide; and so on. Sodium is commonly bound to chloride. Chlorine is a gas, but it becomes the solid chloride when it's combined with sodium, forming common table salt.

Many people assume that no matter where a mineral comes from, it will nourish them. But that isn't true. Minerals are not always in a form that humans can assimilate. And if we cannot assimilate them, those minerals can become contaminants.

Heavy Metals

There are two kinds of minerals that humans cannot utilize. The first are commonly called *heavy metals* or *toxic metals*. Heavy metals are not nutrients. Poisonous to the body, they should never be ingested regardless of their form. For the purposes of this discussion, aluminum, cadmium, lead and mercury are commonly regarded as heavy metals.

Much of our drinking water contains heavy metals. These heavy metals accumulate in the system, clogging whatever tissues they settle in: joints, blood vessels, organs, glands, bone. Once the heavy metals are trapped in the tissues, they interfere with the body's ability to function, causing serious damage. Some of the damage occurs in the form of degenerative conditions such as heart disease, arthritis, respiratory conditions, and dementia.

Two of the most common heavy metals are aluminum and mercury. Although aluminum is the world's most abundant metal, it is not needed by the human body to function. Aluminum easily combines with other substances to form compounds, many of which are widely used in industry and food manufacturing. Aluminum hydroxide is found in most antacids, sodium aluminum phosphate is put into processed cheese, aluminum chlorhydrate is used in antiperspirants, aluminum sulfate is used by water treatment plants, and so on. Although some scientists claim that aluminum must be consumed in large amounts to be poisonous, most holistic practitioners recognize the dangers of much smaller amounts. Numerous studies show that aluminum compounds produce (among other disabilities) memory loss, decreased muscle coordination, and slowed growth. Not surprisingly, the brains of people with Alzheimer's disease contain larger than usual amounts of aluminum. Mercury is equally dangerous. Even recently, mercury was used in thermometers. And it's still present in many vaccines (not that vaccines are themselves safe), and in thousands of other items, from carpeting to

Basic Filtering (Filtration)

Many people filter their water even if the source is an underground spring or well. Underground water can be contaminated with pathogens, or have an unpleasant taste from chemical additives or mineral deposits whose particles are too large, or are the wrong type of minerals. A good filter removes pathogens, chlorine, and large particles. It always consists of a fibrous core through which the water travels before being released for drinking. Different materials for filter cores include activated charcoal and shredded coconut shell. These substances cannot remove fluoride, although ozone can. (The dangers of fluoride will be discussed later.) In addition to fibrous cylinders, the more sophisticated water purification systems use ozone or ultraviolet light, which produces ozone. In any unit, the filter must be replaced regularly or else the core becomes overloaded with contaminants. Make sure to follow the manufacturer's advice on when to change the filters.

Home filtering units can sit on the countertop, be installed beneath the sink, or be fitted at the water's entryway into the house. Filters are important not only for drinking water, but also for bath and shower water. If your water has been pre-treated with chlorine, try to install a filter at the entryway of your home instead of on individual faucets, as chlorine is very toxic. See Sidebar on page 256, "Chlorine: A Lethal Choice for Water Purification."

One popular and inexpensive water filter consists of a small activated charcoal cylinder inside a pitcher. Water poured into the pitcher passes through the charcoal: the purification process. But most people don't bother to pour a little water over the core first and let that water go down the drain. Instead, they use *all* the water that flows through the cylinder. This means that bacteria collected in the charcoal passes directly into the pitcher, as well as the filtered water. Unless you regularly keep the charcoal core free of pathogens, I would not recommend this type of passive filter. Get a water purification unit that *automatically* puts the filter core through a cleansing cycle with fresh water. The best units also circulate ozone to kill any bacteria that may multiply in the filter.

Distillation

Distillation has become a popular method of cleaning water because it removes more contaminants than does simple filtering: heavy metals, all particulate matter, and most pathogens. (It cannot remove fluoride or volatile organic compounds.) All minerals are also removed during distillation, which is why the process is sometimes called *demineralization*. The elimination of minerals eradicates water's ability to conduct an electrical charge. This makes distilled water an excellent foundation for cleaners, cosmetics, and thousands of other preparations where an electrical reaction would be undesirable. (Distilled water

The Amazing Story of Alexis Carrel and His Chicken Heart

In 1912, French-born surgeon Alexis Carrel won the Nobel Prize in Medicine for devising unique ways to suture blood vessels, repair damaged arteries, and transplant organs. By 1935, together with famous aviator Charles Lindbergh (who was also an environmentalist and an inventor in his own right), Carrel created the first artificial heart.

But the accomplishments of Carrel's that are the most commercially publicized may not be the most important. From 1912 to 1940, the scientist kept a piece of embryonic chicken heart alive in a solution whose minerals were present in the same proportion as the minerals in chicken blood—and which had the same alkalinity (a pH of 7.35 to 7.45). Carrel was careful to change the solution and oxygen every single day. The experiment ended only because he deliberately stopped bathing the heart tissue 28 years later.

Normally, the life span of a chicken is no more than eleven years (assuming she didn't die at around age four from the stresses of commercial, continued egg laying). Carrel was able to keep the heart tissue healthy and alive because the mineral solution nourished the cells, and the replacement of the fluids every day ensured that all the cellular waste materials were removed. One of the secrets, then, to health and longevity is not only proper nutrition, but also waste removal. Carrel's mineral bath regularly eliminated the waste products of cellular metabolism!

Theoretically, there is no limit to the number of divisions that a healthy cell can undergo, provided it's kept free of metabolic wastes. This has enormous implications for theories about aging. What if so-called "aging" is largely the breakdown of the tissues due to toxification?

Interestingly, Carrel spent many years working at the Rockefeller Institute for Medical Research in New York City until the administration forced him to retire. The Rockefeller family has major ties to the medical-pharmaceutical industry. The Institute bestowed much public praise on Carrel for his undeniably spectacular surgical innovations, but was remarkably quiet about the doctor's discovery that simply keeping the body in its pristine state—with nothing more than oxygen and a mineral bath—may be one of the best-kept secrets to healing, health, and longevity.



The Dilemma of Plastics and Bottled Water

Plastic is convenient for water storage and it doesn't break. However, it's not biodegradable. Plastics are designated with recycling code numbers inside triangular symbols on the bottom of the containers.

- Plastic #1. Polyethylene terephthalate (PET or PETE), also called phthalates. Used for foods, juices, and mouthwash. Plastic is for one-time use only because bacteria readily accumulate on its porous surface. When exposed to heat over long periods, these plastics leach out antimony, a toxic heavy metal.
- Plastic #2. High-density polyethylene (HDPE). This hard opaque plastic is used for drinks, detergents, and some toys. It leaches estrogenic chemicals.
- Plastic #3. Polyvinyl chloride (PVC). Mixed with phthalates to make it soft and flexible, it's used for cling wrap, shower curtains, inflatable toys, flooring, and car interiors. It outgases toxins, causing cancer, immune malfunction, hormone disruption, birth defects, and behavioral and learning disorders.
- Plastic #4. Low-density polyethylene (LDPE). Clear or opaque, flexible but breakable, it's used for drink cartons and food bags. It leaches estrogenic chemicals.
- Plastic #5. Polypropylene (PP). Used for food containers, it's resistant to heat and moisture. PP is hazardous during manufacture but of all the plastics, leaches the fewest dangerous chemicals.

Most plastics are very dangerous. The bottles leach estrogen-like phthalates into the water, feminizing the males of many species including humans. Phthalates are carcinogenic and cause birth defects. They damage the nervous, respiratory, and reproductive systems. Tiny plastic particles, microplastics, leach from bottles into the water—two times more than what's in tap water.

Many products, including canned foods, contain highly toxic Bisphenol-A (BPA), a synthetic carbon-based compound. As more studies have been published on the harm of plastics, consumers have demanded safer substitutes. In response, the plastic bottle industry has changed many of its formulas. But although BPA is no longer being used in many items, it's now being replaced with Bisphenol-S (BPS). Bisphenol-S is touted as safer, but researchers are finding that it causes at least as much damage as—and probably more than—BPA.

It takes precious resources, energy, and petroleum to manufacture bottles. It also seems wasteful to ship countless brands of water from halfway across the world. And, despite the recycling imprints on the containers, much of the plastic is *not* recycled. Plastics end up in our waterways, destroying the habitats of ocean dwellers from corals to sea turtles to whales.

Marine mammals, caught in plastic debris, drown and die in the sea, unable to surface for air. The situation is so serious, Japanese scientists are trying to further develop a type of bacteria that they discovered feeds on plastic.

Bottled water is subject to heavy marketing fraud. Corporations that are losing money from reduced soda sales are trying to regain income by selling "designer" water that they falsely advertise comes from "clear, pristine mountain streams" or "untouched melting glaciers." A very few bottled waters, which do taste wonderful and feel vibrant, have (truthful) labels indicating a high mineral content and a correspondingly alkaline pH. Too often, though, the claims of water bottlers are bogus. Their designer water is simply tap water that has been filtered—and not very well. Most brands show high levels of contaminants, including bacteria, arsenic, chloroform, phthalates, and microplastics. Bottled water is rarely thoroughly tested.

Forgetting the very real problems of unsafe plastics and environmental destruction (both in the creation and discarding of the bottles), it's disturbing that consumers' desire for bottled water is automatically considered a "fad." If tap water tasted that great—or was as healthy or innocuous as some claim—there would be less consumer demand for bottled water. I have never found tap water to be drinkable. One house I lived in had sulfur in the water, which came directly from an underground well. Sulfur is great if you're soaking at a hot spring: the water heals the skin and relaxes muscles. But most people find sulfur thoroughly unpalatable for internal use. In another dwelling, my water came from an underground spring, but it was heavily chlorinated and fluoridated before it reached the sink. In Philadelphia, one of the largest cities on the East Coast of the US, the municipal tap water was subjected to so many harmful chemicals that the water literally foamed as it came out of the kitchen faucet! And in a country home I rented for awhile, the pH was much too acidic for me, at 5.5.

Clean water isn't a privilege, it's a right. However, tap water isn't drinkable. And plastics are unsafe, wasteful, fraudulently marketed, and destructive to the environment. Many good brands of silicone-coated, reusable glass containers are now being sold. You can fill them each time with clean water—filtered and mineralized, or electrolyzed—before you leave your home. It's more work, but safer for all life.

Contamination and taste of water wouldn't be an issue if the water were filtered and ozonated. Ozone is the safest, most effective way to purify water.



Highlights

Get your water tested every one to two years, both before and after filtration (or purification or electrolysis). This will tell you the source water's quality, how well your unit is working, and if the final water meets your needs. Testing your source water will also help you decide what type of water processing unit to get—or if a wiser choice is to buy spring water. Does your water contain pathogens, chlorine or other chemicals, heavy metals, undissolved minerals, or other contaminants?

Properly mineralized water has a subtle sweet taste, and is very refreshing. Your drinking water needs to contain minerals. If you don't have access to a pristine mountain spring or well, acceptable substitutes are:

- Distilled water (ideally, that you distill yourself), to which you add an appropriate electrolyte formula. You can also shake it and expose it to sunshine.
- Water that is first filtered for pathogens, chemicals and other contaminants, and is then mineralized. A good electrolyte formula and Willard's Water add minerals and also raise the ORP of the water. Fresh squeezed lemon juice is always a good choice.
- ♦ The water you drink may make the difference between poor health and vitality. If you are rifing, it's very important to replenish your mineral supply. The body uses up a lot of minerals when you are detoxifying and eliminating pathogens. This is addressed in more detail in Chapter 4.

POPULAR BEVERAGES AND "HEALTH" DRINKS

People who are ill often ask if coffee, tea, soda, conventionally prepared commercial milk (which is homogenized and pasteurized), hot cocoa, chocolate milk, or fruit juice are comparable to properly mineralized water. They are not! In most cases, these drinks require more nutrients for their assimilation than they give to the body. They also cause dehydration, as they force the body to use its precious water stores to eliminate the wastes they contain and produce. Don't forget that accumulated waste provides a fertile breeding ground for harmful microorganisms. Waste also encourage tissues to degrade. If you are used to drinking lots of coffee, soda or fruit juice, might this be what has sapped your vitality in the first place?

Coffee

Coffee is the most popular beverage on the planet worldwide, amassing \$30 billion a year in sales. What we call the coffee "bean" is actually the seed of a fruit that grows on several species of tropical evergreen trees. The flesh of the fruit is discarded, but the bean is dried, roasted, ground, and brewed into a beverage. Depending on the source, statistics vary somewhat on how many in the US drink coffee, but even the lowest statistics are high. According to July 2006 figures from the National Coffee Association, more than three out of four adult Americans drink coffee regularly or daily. In both 2000 and 2014, figures for the average coffee consumption in the United States have remained a steady 3.1 cups per day, the average size cup measuring 8 ounces or larger. The most recent figures state that 54% of Americans over the age of 18 drink coffee daily. The beverage has a unique, aromatic scent that many find intoxicatingly pleasing, although even some committed coffee aficionados admit that it smells better than it tastes.

Recently, a heated debate has emerged regarding the dangers vs. benefits of coffee. I'll first present the negative data—because not only is it abundant, in my opinion it may have less bias than the positive reports.

Coffee is regarded as an addiction because of its caffeine content. Many people cannot wake up and greet their day without having at least one cup. A so-called moderate coffee drinker is estimated to ingest between 300 and 400 mg of caffeine daily. Caffeine is a legal drug that can harm, and even irreparably damage, the nervous system and adrenal glands. Most people don't know that as we age, the adrenals take over functions previously performed by the sex glands, including the production of various hormones—DHEA, estrogen, pregnenolone, progesterone, and testosterone. It is known, however, that the adrenals are connected to the fight-or-flight response. Let us examine coffee's disruption of this response.

Normally, the adrenal glands secrete hormones in an emergency. To give an oversimplified summary, adrenaline is released during acute (sudden-onset, short-term) stress and cortisol is released during chronic (long-term) stress. When the danger has passed—that is, when there is no longer a reason to fight or flee—the adrenals stop secreting the hormones. But caffeine interferes with adrenal function by causing the *continual* production of cortisol. This elevates the heart rate, raises blood pressure, and abnormally increases respiration. Excess cortisol also causes fat to gravitate to the belly and the neighboring internal organs.

Caffeine influences blood sugar levels by exerting a "domino effect" on not only the adrenals, but also other

The Best Coffee Substitute Ever

Chicory may look like scraggly lettuce, but it's an amazing plant. Not only are the leaves nutritious, but the brewed roasted roots taste like coffee, with a robust, satisfying flavor and rich, creamy mouth feel. Research shows that chicory nourishes the liver and increases the flow of bile, thus improving fat digestion. Chicory also purifies the blood, is high in antioxidants, and has anti-inflammatory effects. It even improves insulin uptake in the cells, which balances and regulates blood sugar levels.

Brew as you would regular coffee, using an ordinary coffee maker or a French press.

triggers the brain to release a chemical that induces brain stem cells to transform into new nerve cells. If this data is true, it may explain reports that moderate coffee drinkers have lower rates of Alzheimer's and Parkinson's Disease than abstainers (or a delay in the onset of those conditions). This could also account for reports that coffee promotes anti-aging effects on the brain.

Another widely publicized benefit of coffee pertains to its bioflavonoid content. Among other functions, bioflavonoids help strengthen blood vessel walls, scavenge free radicals, protect collagen, prevent inflammation, and reduce stress and improve mood by helping the body produce vital neurotransmitters. As bioflavonoids are abundant in fruits (especially citrus), and many vegetables—including broccoli, garlic and spinach—it seems foolish to drink coffee for its bioflavonoids when other, better options are available. Also, pro-coffee studies don't mention what form of coffee is being researched. Bioflavonoids degrade when heated.

Knowing that over half of the scientific reports we read are distorted or fabricated (see Chapter 1), is there even a particle of truth to any of these glowing claims? Under what circumstances might these glowing reports be true? And how do we assess coffee's apparent advantages against the damage? Part of the answer, at least, may depend on the health status of the coffee drinker, as well as on how the coffee bean is grown and harvested: its freshness.

Coffee's freshness is more important than you might think. The beneficial oils in the coffee bean are so fragile, they start to degrade as soon as the bean has been roasted. They further decompose after the beans are ground. The most discerning coffee aficionados buy the beans raw (which are green), roast the beans in a special roaster, grind the beans after removing them from the roaster, and then immediately make the beverage. This is the only way to ensure that the coffee is fresh. If the ground coffee is even one day old, the delicate oils have already begun

to turn rancid. This degradation of the volatile oils is not perceived by the average consumer as rancidity, however; people merely assume that coffee is inherently bitter. But truly fresh coffee is not bitter—it's incredibly mild, and possesses many complex and delicious flavors. In fact, it's easy to drink fresh coffee without adding anything else to it, not even sugar. Commercially roasted and ground coffee, which has been sitting on the store shelf for many weeks if not months, is what most people think of as coffee. So what they drink, and perceive of as "normal" coffee, is stale! From a health standpoint, this staleness indicates that the beneficial oils have already deteriorated into toxic compounds.

Until six years ago, in my entire life I drank probably fewer than one hundred cups of coffee. I was never drawn to it—but after buying my own roaster and grinder and drinking the beverage fresh, I was hooked. Beans that had been roasted and ground 24 hours ago were not as good as beans that were roasted and ground within the last 30 minutes. The fresh brew tasted better, was smoother, and even seemed to have uplifting energy. Some say that freshly roasted and ground coffee lasts for two weeks before it begins to degrade, but that was not my experience.

If you do decide to drink coffee, buy organically grown beans, as most coffee is heavily sprayed with toxic pesticides. Make sure that you drink it within one day of roasting and grinding the beans. If you don't want to roast and grind beans every day, store the excess in the freezer, or vacuum seal it to maintain freshness. (The unroasted, raw green beans last for up to two years in the freezer.) Some coffee connoisseurs prefer brewing in a French press without a filter, as even an unbleached filter is said to absorb the antioxidants. And don't add sugar to the brew; this will cause insulin spikes. Finally, if you own a water electrolysis unit, make the coffee with alkaline water set to the highest possible (most alkaline) pH setting. This will offset the negative effects of the acids (remember, coffee has a pH of about 5.0).

Before you decide to drink coffee (or more of it), please note that my fresh coffee story doesn't have a happy ending. It took four years to reverse some of the damage I inflicted on my adrenals, and even then, my recovery was only partial. Any benefits of coffee pertain only to those who have a strong immune function, a balanced nervous system, and strong adrenals. The benefits may also be non-existent, depending on how the coffee has been processed. If you suffer from erratic blood sugar levels, adrenal fatigue, or a severe health problem such as Lyme or cancer, drinking even freshly roasted coffee is unwise. You can buy some good-tasting coffee substitutes containing roasted chicory in health food stores and even supermarkets.



Healthy Spice Drink for a Sweet Tooth

- 12 cinnamon sticks, about 2¾ inches long (do not use powder, or else the drink will be bitter; see note below about cinnamon)
- ♦ ½ heaping teaspoon whole allspice
- ½ heaping teaspoon whole cloves
- 1 heaping teaspoon peeled chopped ginger
- ½ teaspoon hulled cardamom
- ♦ ½ teaspoon whole fenugreek
- 1½ tablespoons loosely packed shredded Chinese tangerine peel (Citrus reticulata), optional
- ◆ ½ teaspoon powdered green stevia leaf, optional
- 6 quarts water (less if you want a stronger drink)

Directions. Boil water. Add all ingredients except stevia and don't allow water to boil again. Simmer about 45 minutes, or until the tightly curled *cassia* cinnamon bark flattens somewhat or the *verum* cinnamon falls apart. Strain immediately so the drink doesn't become acrid. Refrigerate for up to three days, or keep overnight in a thermos. This drink is good cold or gently reheated. Add stevia powder just before serving.

Collectively, the ingredients balance blood sugar (cassia, more so than verum), induce sweating, aid digestion, open the sinuses and respiratory tract, dispel excess moisture, warm the body, and improve cognition. They also have antibacterial, antiviral, and antifungal properties.

Important information about cinnamon. If you're planning to drink a lot of this beverage, be aware that there are about a dozen different species of tree known as "cinnamon." True cinnamon, found in Ceylon and known as Cinnamomum zeylanicum or Cinnamomum verum, is expensive and hard to find. Its bark is soft, layered and very sweet. Its cheaper, readily available cousin, Cinnamomum cassia, has hard, more smoothly textured bark, and is a bit less sweet, with a sharpness to its taste. Although all species of cinnamon bark have similar effects, the true cinnamons contain less coumarin than cassia. Coumarins are naturally occurring plant compounds that have strong anticoagulant properties. This is important to know because normally, when the body is injured, blood coagulates at the injured site (which is what you want). But if you ingest too much coumarin over a long period of time-which will happen if you drink this beverage often and make it with cassia—the blood will no longer coagulate easily when you need it to. On the other hand, cassia, more successfully than verum, appears to inhibit the progression of Alzheimer's. Therefore, it's worth experimenting with both types.

(such as peppermint, chamomile, hibiscus flowers and ginger) have no restorative effects and are merely appealing beverages, herbalists (and my personal experience) indicate otherwise. Even modest "tea portions" of various plants offer benefits. For example, peppermint stimulates better digestion and encourages wakefulness. Chamomile calms the nerves and induces sleep. Hibiscus, with its distinctive tangy flavor, contains many compounds—including quercetin (a bioflavonoid), which helps with allergies and circulation. The **Herbs** section later in this chapter addresses what makes an herb medicinal.

Coaxing satisfying and subtle flavors from herbs is an art. For leaves and delicate plant parts, heat the water to just under a boil and then steep the leaves. Don't let the leaves sit in the water for too long; otherwise, they'll become bitter. Dried berries, bark, and especially thick rinds, which contain numerous heavy layers of tough plant cellulose, require a more rigorous approach of boiling for 20 to 40 minutes, and occasionally longer.

Ginger root has a well-deserved reputation for being the most widely used herb on the planet. A favorite with cooks, ginger also relieves colds, allergies, arthritis and asthma, and helps protect the digestive tract and liver from toxins and parasites. It also stimulates digestion and alleviates nausea, making it popular during pregnancy. See Insert of a drink I invented, "Healthy Spice Drink for a Sweet Tooth." It uses ginger as a main ingredient and doesn't contain sugar or fruit. The number of non-caffeinated beverages is limited only by your imagination.

FOOD

One Size Does Not Fit All

Did you ever go shopping for a "one-size-fits-all" bathrobe? If you're 5 feet tall (my height), and if you have a friend who's 6 feet tall (like my business partner), and both of you try to fit into the bathrobe, you'll quickly learn that this claim does not coincide with reality. Yet the public is constantly told that this one-size-fits-all mentality applies to everything, including diet.

No one can dispute that good health depends on eating properly. The problem is, even "experts"—in holistic as well as mainstream medical arenas—disagree as to what constitutes the optimum diet. There are many types: macrobiotic, vegetarian, vegan, raw food, Ayurvedic, high complex carbohydrate, low fat; the list is endless. Have you ever asked yourself why popular diets contradict each other so much? "How can they all be right?" you wonder. "Why does my friend lose weight



The Most Heavily Sprayed Fruits and Vegetables

The samples tested in the left hand column were scored according to how many contained detectable pesticides, the average amount (in ppm) of all pesticides found, and the number of total pesticides found on the crop. It's unclear how the right hand column was scored. Unfortunately, available data for 2017 lists fewer crops than in 2006. Incidentally, according to a 1992 EPA journal, only one-tenth of one percent of a given pesticide, sprayed onto a crop, reaches its original target. This means that the air is constantly saturated with pesticides, which we breathe.

Highest to lowest load, 2006	Highest to lowest load, 2017	
Peach	Strawberry	
Apple	Spinach	
Sweet Bell Pepper	Nectarine	
Celery	Apple	
Nectarine	Peach	
Strawberry	Pear	
Cherry	Cherry	
Pear	Grape	
Grape, imported	Celery	
Spinach	Tomato	
Lettuce	Sweet Bell Pepper	
Potato	Potato	
Carrot	Grapefruit	
Green Bean	Cauliflower	
Hot Pepper	Cantaloupe	
Cucumber	Kiwi	
Raspberry	Honeydew Melon	
Plum	Eggplant	
Grape, domestic	Mango	
Orange	Asparagus	
Grapefruit	Papaya	
Tangerine	Sweet Pea	
Mushroom	Onion	
Cantaloupe	Cabbage	
·	_	
Honeydew Melon Tomato	Pineapple Avocado	
Sweet Potato	Sweet Corn	
Watermelon		
Winter Squash		
Cauliflower		
Blueberry		
Papaya		
Broccoli		
Cabbage		
Banana		
Kiwi		
Sweet pea, frozen		
Asparagus		
Mango		
Pineapple		
Sweet Corn, frozen		
Avocado		
Onion		
—adapted from Organic Consul		
www.foodnews.org/walletguide.php (left hand column)		

—adapted from Organic Consumers Association, 2006 www.foodnews.org/walletguide.php (left hand column) and Environmental Working Group, 2017

www.ewg.org/foodnews/guide.php (right hand column)

Opinions differ as to whether nuts should be eaten raw or roasted. For some people, raw nuts soaked overnight makes them more digestible. Sprouting liberates many valuable enzymes—after all, a sprout is the beginning of a vital, chlorophyll-rich green plant—although not all of the natural chemicals that are liberated in growing plant sprouts are beneficial for humans.

Almonds belong to the same family as apricots and plums. The seeds (kernels) inside the hard pits look and taste like bitter almond. Apricot kernels are the source of the anti-cancer drug Laetrile®—which G. Edward Griffin points out is basically Vitamin B17. The botanical relationship of almonds and apricots may explain why psychic Edgar Cayce advised in his famous nutritional readings that eating three almonds a day would prevent cancer. (Note, however, that bitter almonds, not the sweet ones, contain B17.) Almonds are also considered special because, unlike other nuts and seeds, for people of a certain metabolic type they help alkalize the system. These health benefits—and the FDA's hostility toward natural health—may explain why the FDA passed a law requiring all almonds to be irradiated (the agency calls it "pasteurization"), thus rendering them lifeless, incapable of sprouting. Even though irradiated almonds contain no life force, they are legally allowed to be called raw.

Fats and Oils

Healthful fats have been eaten for thousands of years by native peoples adhering to traditional diets. They include animal fats, oils from coconut, olive and flaxseed (also known as linseed when used for industrial purposes), and raw butter. Animal fats and coconut oil can withstand fairly high heat. Butter and olive oil can survive moderate heat. Flax oil should be unheated, eaten fresh (as oil or as freshly ground seeds), and refrigerated.

Americans have been taught to fear dietary fat, evidenced by a glut of supermarket items peddled as "low fat," "zero fat," and "low cholesterol." But these no-fat foods are unnatural. The right kinds of fat—saturated and unsaturated, some from vegetables but most from animals—are an essential part of the human diet. Fats lubricate the tissues, assist with metabolism, provide essential nutrients, and satisfy hunger. Fats provide the beneficial type of cholesterol that makes bile salts, hormones, and Vitamin D. Our heart and kidneys can't survive without fat. Our nerve cells are coated with fat, which acts as insulation—similar to the rubber that surrounds electrical wiring (which is analogous to the nerve cells). If we don't eat enough of the proper fats, the messages conducted along the nerves become scrambled due to poor insulation. Also, fats comprise over 70% of the brain. This helps us think, concentrate, remember,

Did you know that your heart uses fat exclusively as its source of energy? Now why would your heart only choose fat? It cannot miss a beat and needs a very reliable and optimum source of energy. Carbohydrates and glucose are too unreliable for your heart. Glucose is inferior for muscle power and only your brain is truly efficient at burning glucose as its source of fuel. Your brain is unique because it has the ability to utilize glucose without insulin being present. What this tells us is that the human body is a fat burning organism that is designed to operate on small amounts of insulin and carbohydrate.

—Jay Robb, The Fat Burning Diet, 1996

move, sense, and perceive correctly. The high amounts of fat in human milk help an infant develop properly.

If animal fats are so important in the diet, why are some people afraid to eat them? In "The Oiling of America" (some of it excerpted in the page 310 Sidebar, "The Truth About Canola Oil"), biochemical researcher Dr. Mary Enig and nutrition activist Sally Fallon describe how, over five decades ago, the "edible" oils industry deliberately generated negative publicity for animal fats and coconut oil to create a lucrative market for their own highly processed, fabricated vegetable oils. Enig's research, showing the harm of processed hydrogenated fats, was deliberately falsified. The popular fiction that animal fat is completely saturated, is misleading and wrong. Beef fat is 54% unsaturated, lard is 60% unsaturated, and chicken fat is about 70% unsaturated.

Dietary fat does not automatically translate into bodily fat. It's an excess of carbohydrates (sugars and starches), rather than unaltered fats, that leads to overweight (discussed later in this chapter). Note, for instance, that the diet of the Inuit (Eskimos) consists of about 80% whale and seal blubber.

What about oils designated "cold pressed"? This simply means that the oils have not been heated after being extracted from their source. But even vegetable oils labeled "cold pressed" heat up considerably as a result of the intense pressure—20 tons per square inch—needed to extract the oil in the first place. Compare the pressure required to squeeze oil from a hard seed or nut, to that needed for a fleshy olive or tiny soft sesame seeds! So, even though a vegetable oil may be processed without chemical solvents, artificial preservatives or *extra* heating, as soon as the now-hot oil is squeezed out of nuts and seeds, it starts to turn rancid. One such oil is canola.

Canola, grown extensively in Canada, has until recently been known as rapeseed. To make the oil more appealing to a mass market, Canadian scientists renamed the product. (Most sources cited the name as a shortened



- Rice. Includes the misleadingly named "glutinous" rice (which is sticky, hence the name). Until recently, rice has been eaten polished. In Asia, where rice is a staple, carbohydrate intolerance wasn't a problem until modern wheat and processed dairy were added to the diet. Basmati, a fragrant rice that heals the gut, is used in Ayurvedic medicine for digestive disorders. Wild rice is the seed of an unrelated nutty-tasting grass. In prepackaged meals, gluten may be added to rice "to improve consistency," but this is rarely on the label.
- *Teff.* The size of a poppy seed and highly nutritious, teff is used to make *injera*, an Ethiopian flatbread.

The following seeds cook and act like grains. Except perhaps for two strains of quinoa, none contain prolamins.

- Buckwheat / Buckwheat Groats / Kasha. This confusingly named food is not in the wheat family at all, but is the seed of an herb related to rhubarb.
- Millet. Commonly fed to birds, this grass seed contains goitrogenous compounds that impair thyroid function and inhibit iodine absorption. The effects increase when cooked, so millet should not be eaten often.
- *Amaranth*. This nutritious seed, botanically related to spinach and quinoa, contains the amino acid lysine.
- Quinoa. Nutritious and botanically related to spinach and amaranth, quinoa contains the amino acid lysine. Two out of 15 varieties of quinoa contain proteins distantly related to gluten, which cause people with celiac disease to react as though they had eaten wheat. However, most people don't have a problem with quinoa.

Those with longstanding or serious health issues might consider abstaining from grains until health is restored. Everyone could benefit by avoiding most prolamin grains.

Natural, Refined, and Artificial Sweeteners

Humans have always loved sweet foods. The expression "sweet tooth" dates from the late 1300s. Originally, the phrase referred to a fondness for any morsel that was considered a delicacy; but over time, it came to mean *sweet* delicacies. Today, the expression pertains to anyone who has an uncontrollable craving for sweets. Of all the tastes—sweet, sour, salty, bitter and astringent—the sweet taste is the favorite of most people all over the world, particularly children.

Our sense of smell usually lets us know whether we should eat a food. If the animal or plant smells rancid or putrid, it's very likely rotten or poisonous; and if it's sweet, it should be okay to eat. However, what tastes

intoxicatingly sweet isn't always good for us, and we pay dearly with our health. So-called natural sweeteners straddle the line between real and manipulated food because although most are derived from natural plants, their sweetness is concentrated through drying, heating, or evaporation. These changes affect body chemistry in ways that aren't beneficial.

There are many types of sugar. Among the ones ending in "ose" are dextrose, fructose, galactose, glucose, lactose, maltose, and sucrose. (Glucose is the primary fuel utilized by the brain and muscles.) Among the sugars ending in "tol" are those classified as sugar alcohols or polyols: erythritol, lactitol, maltitol, mannitol, sorbitol, and xylitol. Different foods contain different amounts and combinations of sugars. For example, refined white sugar from cane is almost 100% sucrose (which is broken down by the body into glucose and fructose), the sugar in apples is almost 100% fructose, and different honeys usually contain varied proportions of fructose and glucose.

In this discussion on sweeteners, I will explore in depth the effects on the body of all types of sugars. Then I'll discuss specific sweeteners, from the least processed to the outright artificial. "Least processed" refers to substances that are gathered from nature, and then dried or heated to concentrate their sweetness. "Outright artificial" refers to substances that are synthesized in a lab. They might be extracted from natural materials, but they undergo so many chemical processes that they're ultimately transformed into entirely different substances.

The Bitter Truth About Sugars

Unless specified, "sugar" includes *all* sweeteners except for the obviously artificial sugar substitutes. Sugar:

- Promotes tooth decay (except for xylitol).
- Upsets the body's vitamin and mineral balances.
- Feeds harmful microbes.
- Suppresses immune response.
- Permanently alters protein structure and function.
- Causes a loss of tissue elasticity and function.
- Changes collagen structure.
- Causes tendon brittleness.
- Impairs DNA structure and function.
- Causes hormonal imbalances.
- Hinders normal cell metabolism.
- Interferes with oxygen availability to the body.
- Destroys enzymes.



Maple syrup contains a fairly high amount of manganese, and smaller amounts of zinc, potassium, iron and calcium. All the enzymes present in the raw tree sap are destroyed when the sap is boiled. Not surprisingly, the unboiled, unprocessed sap isn't very sweet, and as it's full of minerals, it's drunk as a tonic in Asia. During maple season, Koreans are known for drinking gallons of raw sap over the course of several days while detoxifying in the sauna.

Maple syrup has a wonderful, distinctive flavor. Cheap supermarket imitations contain no actual maple syrup, but are loaded with corn syrup, artificial flavorings, and chemicals. Maple syrup (not the raw maple sap) affects the body in a way similar to refined white cane sugar.

Coconut Sugar / Coconut Palm Sugar / Palm Sugar / Coconut Nectar (Sap)

To make coconut sugar, nectar from the flower buds of the coconut tree is boiled to evaporate the water. Then it's dehydrated, leaving granules with a taste similar to brown sugar. Coconut sugar, which contains between 70% and 79% sucrose and about 10% each of fructose and glucose, is touted as healthy because of its naturally low fructose content (see details on fructose beginning on page 330).

Palm sugar is derived from the sap of the sugar palm (not the coconut palm), and boiled to concentrate the sweetness. Its taste is similar to that of maple syrup. Coconut and palm sugars are often mistaken for, and used interchangeably with, each other. This makes it difficult for consumers to know exactly what they're getting.

Coconut nectar, readily distinguishable from the other two, is a thick syrup made from coconut tree sap. Proponents assert that it contains live enzymes because it presumably doesn't require intense heating to extract it. Depending on the source, one or more of the sugars is claimed to contain Vitamins B1, B2, B3, B6 and C, as well as potassium, magnesium, zinc and iron. However, these are tiny amounts. The end products are still sugar.

Date Sugar

Dates are 80% sugar. Depending on the kind of date and whether it's fresh or dried, its types, amounts, and ratios of sugars vary. Fresh dates (which are very soft) contain glucose and fructose. Dry dates contain more sucrose.

To make date sugar, the pits are removed from the dates. Then the fruit is dried and ground into fine granules. Date sugar has all the fiber and nutrients of the freshly picked fruit. It's particularly high in potassium, and contains a few trace minerals (not many vitamins). All of its enzymes are intact, as long as the fruit is dried at low enough heat. Date sugar affects the body in a way similar to refined white cane sugar.

Honey

Honey is made by honeybees from nectar that they gather from flowers. The nectar—clear liquid that pools at the end of the flower's female sex glands—is comprised of about 80% water and some complex sugars. After the nectar becomes honey, the nutrient composition is about 80% sugars, 18% water and 2% amino acids, as well as some minerals, vitamins and pollen. On average, fructose comprises 38% of the natural sugars and glucose, 31%; but the ratios are different depending on the honey.

The natural antibiotic properties of honey have been known for centuries, making it popular as both an internal medicine and a skin dressing. Honey contains ample antioxidants, including hydrogen peroxide (H₂O₂). The H₂O₂ is produced by the enzyme glucose oxidase, which is injected into the nectar by the bee during the honey making process. Due to its high sugar content, raw unheated honey pulls out water from bacteria, which dehydrates and kills them. Honey contains enzymes that scavenge pathogenic waste and other debris. It also interferes with the ability of bacteria to produce biofilm, a hard gooey shelter that protects pathogens. All honeys are easy to digest, and are used in cough syrups because their smooth, thick texture coats and soothes the throat.

To extract nectar from flowers, the bees use their long, tubular tongues like straws. Then they store the nectar in sacs, which function like second stomachs, located in their hind legs. Honeybees must visit between 100 and 1,500 flowers to fill these sacs (which is why they're such valuable pollinators of crops). At optimal capacity, the sacs on each bee hold about 70 mg of nectar, weighing about as much as the bee. Once the sacs are full, the field worker bees return to the hive and pass the nectar to the hive worker bees, who suck the nectar from the sacs. For about 30 minutes, the hive bees chew the nectar, essentially predigesting the fluid. Enzymes from their mouths break up the complex sugars into simpler sugars,

Manuka Honey as Medicine

Of all the honeys, Manuka, from the tea tree flower, contains the highest amount of methylglyoxal (MGO), a natural antibacterial compound. Manuka is highly effective against resistant bacteria, including *Staphylococcus aureus* (which causes respiratory infections) and *Helicobacter pylori* (which causes stomach ulcers). Manuka is commonly applied to wounds, cuts and infections, gargled for sore throats and dental disease, and eaten to eradicate ulcers. It's graded according to its bioactivity: *UMF* stands for "Unique Manuka Factor." Designations of 12+ to 15+ are usually sufficient for antibacterial properties.

In addition, Sanda writes, "hypertrophy of the heart and liver" develops in young male experimental animals fed fructose. "Liver, heart and testes exhibit extreme swelling, while the pancreas atrophies, invariably leading to death of the rats before maturity. . . . The females [do] not develop these abnormalities, but they [reabsorb] their litters." 96 In other words, the embryos in pregnant females simply dissolve in utero.

Fructose actively interferes with copper metabolism, making it impossible for the body to form collagen, a gelatinous substance found in connective tissue, bone, and cartilage. This fructose-induced copper deficiency leads to anemia, blood sugar abnormalities, bone defects, cardiovascular problems (including heart arrhythmia and heart attacks), and infertility. Fructose has also been shown to impair memory in rats. (Fortunately, docosahexaenoic acid—the Omega 3 fatty acid more commonly known as DHA—can help repair neural tissue damage.) People who cannot digest fructose sometimes exhibit symptoms similar to those of lactose intolerance: abdominal cramping, diarrhea or constipation, flatulence, stomach pain, and other gastrointestinal problems.

The uniquely negative properties of fructose are due to how it's processed in the body. Unlike glucose, which is easily utilized by all the cells, fructose can be metabolized only by the liver. But the liver is able to transmute and store only limited quantities. For many people, even a small amount of fructose is too much. With just one glass of fruit juice, state clinical nutritionist Ann Louise Gittleman and colleagues, "the conversion process of fruit into glucose and then into fat can be magnified."97 Such "magnification" can eventually cause fatty deposits and cirrhosis of the liver—similar to problems developed by people who drink too much alcohol. Also in the liver, fructose seizes all the ATP energy stores. (ATP is an acronym for the energy molecule adenosine triphosphate.) A loss of ATP makes us feel tired, stressed, and depleted.

Fructose is often marketed as a non-reactive sugar for people with diabetes, based on its reputation of slow release into the bloodstream. But the truth is, blood glucose levels are very erratic if fructose is ingested. Fructose, Sanda emphasizes, "reduces the affinity of insulin for its receptor, which is the hallmark of [one type of] diabetes."98 If glucose cannot enter a cell, it cannot be metabolized, and instead it remains in the blood. To drive the glucose out of the bloodstream and into the tissues, the pancreas secretes even more insulin—and at this point, the body can become insulin-resistant (and thus have a significant elevation of triglyceride levels). This is why journal articles exist with such titles as "Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin

sensitivity in overweight/obese humans" 99; "Excessive fructose intake induces the features of metabolic syndrome in healthy adult men: role of uric acid in the hypertensive response" 100; and "A causal role for uric acid in fructoseinduced metabolic syndrome." 101 More details of the relationship between fructose and uric acid accumulation is described in the Insert on page 331, "Fructose and Uric Acid, Obesity, and Gout."

Most people are not informed about the effects of fructose. Among all the sugars, fructose seems to most readily disable one's ability to feel full. It's pointless to even consider using fructose crystals as a sweetener, especially when delicious whole fruit is available.

High Fructose Corn Syrup (HFCS)

High fructose corn syrup (HFCS) is a relatively new invention. Until the 1970s, most of our sugar was derived from cane or beets. But HFCS became plentiful and cheap to produce after the US government began subsidizing commercial corn farming. The syrup mixes well, is easy to store, and extends the shelf life of whatever other processed food it's in. As a result, HFCS is in almost every packaged and prepared food imaginable: bread, cereal, soda, condiments, baked goods, candy, dairy products, canned and bottled vegetables and fruits, sauce, snacks, soup, jam, salad dressings, cough syrup, and even meats.

Unlike standard corn syrup, which is mostly glucose, HFCS is about 45% glucose and 55% fructose. This makes it much sweeter than its counterpart. And, Sanda points out, HFCS "can be manipulated to contain . . . up to 80% fructose and 20% glucose. Thus, with almost twice the fructose, HFCS delivers a double danger compared to sugar [sucrose]." ¹⁰² HFCS-90 is 90% pure fructose.

HFCS is manufactured from corn starch. Fermented by three enzymes, the starch is turned into glucose, and then processed to yield high fructose levels. A 2009 Environmental Health article showed that almost half the HFCS samples studied were contaminated by mercury. 103 The corn used in any corn syrup is certain to be genetically engineered. Many people are also allergic to corn. See Sidebar, "Foods and Personal Care Products that Contain Corn Derivatives or Byproducts."

Industry is now allowed to label HFCS "corn sugar," "maize syrup," "fructose syrup," or simply "fructose."

Agave Syrup

The agave species—large succulent (water-retaining) plants probably related to the lily—grow in Mexico, in the southern and western United States, and in central and tropical South America. The nectar-producing plants for the burgeoning North American agave syrup market are in Mexico. Their fleshy spiked leaves cover a pineappleshaped core that contains a sweet sticky juice. Depending on the species, growing conditions and climate, an agave plant has a lifespan of 8 to 15 years. The leaves of a mature plant are 5 to 8 feet tall, and the plant itself ranges from 7 to 12 feet in diameter.

Agave nectar begins to ferment a few hours after it's taken from the plant. The ancient Mexicans developed a drink made from fermented agave juice, the predecessor of tequila. Modern tequila is made from the blue agave plant.

Most agave syrup consists of about 80% to 95% fructose, with the remainder glucose, depending on the plants providing the syrup and the manufacturing process that is used. Some sellers claim that agave contains inulins, which are naturally occurring polysaccharides (several simple sugars linked together) that are a primary food for intestinal flora. (The gas and bloating that some people experience after ingesting inulin are due to the increase in friendly flora, which digest debris in the intestine.)

Agave dissolves easily in cold liquids, doesn't crystallize like honey, and is sweeter than sugar when used in recipes. Because agave is watery, consumers are advised to use less liquid when baking.

Some brands of agave nectar come in light and dark varieties, like molasses and maple syrup. Darker agave is subjected to less filtering and processing. Lighter is subjected to more. Darker agave, which tastes a bit like molasses, is reported by manufacturers to contain higher concentrations of iron, calcium, potassium, and magnesium. The lighter liquids, which are bland and have almost no taste, are said to contain lower concentrations of minerals. I have not seen the percentages of minerals listed anywhere for any agave product.

Proponents of agave claim that its glycemic index score is lower than that of any other natural sweetener. Agave is marketed as good for people with diabetes, but it contains mostly fructose. Knowing what we do about high fructose levels and body chemistry, it's reasonable to assume that continued use of agave can raise insulin, blood sugar, and triglyceride levels.

How manufacturers describe agave production, and what the patents disclose about its processing, make this fluid seem like two different products. According to manufacturers, agave is made by expressing the juice from the core of the plant, filtering the juice to remove the

Foods and Personal Care Products that Contain Corn Derivatives or Byproducts

People with corn allergies, or who want to avoid GMOs, should not use the following. This is only a partial list.

- Ascorbic Acid (Vitamin C). Found as a nutrient in nutritional supplements. Most of it is derived from corn.
- Inositol and Inosinate. Found as nutrients in Vitamin B supplements. Extracted from the phytic acid naturally
 present in the hulls of corn.
- ◆ Lactic Acid. Used in some skin care products. From fermented corn starch and sometimes potato starch.
- Lecithin. An emulsifier used in supplements and many food products. Usually from soy, sometimes from corn.
- Linoleic Acid. Used in making soaps, emulsifiers, and oils. From cottonseed, soybean, and other vegetable oils.
- Lysine. Essential amino acid, used in many nutritional supplements. Often derived from corn.
- Oleic acid. Often used in cosmetics. From corn and other vegetable oils.
- Pectin. A gel found in puddings, jams, and other foods. Sometimes derived from corn sugars (dextrose or fructose).
- Phospholipids. Fats that are a major component of cell membranes. Put into nutritional supplements and drugs.
 Often derived from corn oil.
- Phytic Acid. Indigestible anti-nutrient from the hulls of nuts, seeds and grains, including corn. Inositol and inosinate
 are extracted from phytic acid and are used as nutrients in nutritional supplements.
- Stearic Acid. Found in fake fats, baked goods, and especially as a binder in nutritional supplements. From corn
 oil (or cottonseed oil, which is heavily sprayed).
- Sugars. Dextrose, fructose, maltose, dextri-maltose, maltodextrin, cyclodextrin, diacetyl, amylose, amylopectin, invert sugar, isomalt, levulose, monosaccharide, lactate condensation, polyamino sugar condensate, confectioner's sugar. Found in all types of packaged foods, in nutritional supplements, and in pharmaceuticals. Often from corn.
- * Xanthan Gum. Used as a food thickener. From corn sugar.
- ♦ Zein. Used as a coating for vitamin supplements. From corn protein.
- Other substances: baking powders (some), white vinegar, methanol (rubbing alcohol, poisonous if swallowed), citric
 acid, caramel, excipients (carriers for the actual ingredients you want to impart), pill binders, malt, monoglycerides
 and diglycerides (fats that emulsify or blend ingredients), sorbitol, vanilla extract, milo starch.

solids, and then breaking down the carbohydrates in the fluid into sugars through the use of either heat or enzymes. Finally, we're told, the filtered juice becomes concentrated into a syrup that's a little thinner than honey, but sweeter. I have not been able to find information on any agave website about how this final "concentration" takes place. However, the patents provide much more information.

In 1998, a patent was awarded by the United States Patent Office for a process that uses enzymes to transform the more complex agave polyfructose extract into pure fructose. The abstract states:

A pulp of milled agave plant heads are liquified during centrifugation and a polyfructose solution is removed and then concentrated to produce a polyfructose concentrate. Small particulates are removed by centrifugation and/ or filtration and colloids are removed using termic coagulation techniques to produce a partially purified polyfructose extract substantially free of suspended solids. The polyfructose extract is treated with activated charcoal and cationic and anionic resins to produce a demineralized, partially hydrolyzed polyfructose extract. This partially hydrolyzed polyfructose extract is then hydrolyzed with inulin enzymes to produce a hydrolyzed fructose extract. Concentration of the fructose extract yields a fructose syrup. 104

The numerous patents for producing agave syrup describe several other ways to obtain pure fructose: bathe the nectar in mineral acids; filter the nectar through membranes; soak minced plant parts in a solution of water and inulase (an enzyme) for a little over a day. (Inulase is an inulin enzyme. Could this be the source of the highly publicized inulin in agave?) Or, collect the minerals and other "impurities" with diatomaceous earth, and then eliminate all the debris by spinning the liquid. (Food grade diatomaceous earth is a safe powder of ground-up fossilized one-celled sea creatures called diatoms. It's commonly dusted on animals for insect control, and if it's food grade, it can be taken internally to dispel parasites.)

Even if you're not a trained chemist, when reading the patents several questions arise. What happens to the viability of the minerals and naturally-occurring enzymes when the nectar is heated at 140°F to 160°F (60°C to 71.1°C)? More to the point, if agave nectar is already so desirable—and because many cheap high fructose sweeteners are already on the market—why go to all the trouble to "purify" the colored, thin, strong-tasting nectar into a final product that's basically nothing more than clear liquid fructose? Might the exotic origin of a tropical

plant induce North Americans to pay high prices for what essentially appears to be glorified high fructose syrup?

Significantly, all the patents I have read rate the final liquid product according to its "purity"—in other words, the amount of processing it has undergone! One site states, "A poor quality fructose syrup has a yellow-brownish color and is *tainted* by the taste and smell of the agave plant." [emphasis added] ¹⁰⁵

Health writer John Kohler brings in yet another angle: there is no life in this sweetener, despite claims by some manufacturers that their agave is "raw."

Agave syrup was originally used to make tequila. When agave syrup ferments, it literally turns into tequila. The enzymatic activity therefore *must* be stopped so that the syrup will not turn into tequila in your cupboard. . . . If there is no enzymatic activity, it is certainly not a "live" food. ¹⁰⁶

No other sweetener (except raw honey and dates) contains enzymes, either. Let's look at another patent.

It is an object of the present invention to produce a high fructose content syrup through the processing of milled agave plant pulp. . . . to produce a high fructose content syrup [while] the aroma and flavor of the agave plant are removed without undue expense. . . . [and] to produce a concentrated fructose syrup which is stable over time and suitable for human consumption in a wide variety of food and beverages. It is yet another object of the present invention to produce a high fructose content syrup in which the color and flavor may be varied by selection of the combination of processing steps and by variation in the length of individual processing steps. ¹⁰⁷

Incredibly, some companies call their product agave *nectar*. This is more than misleading, it's an outright lie. Agave is very far removed from the actual plant.

Xylitol and Other Sugar Alcohols

Sugars ending in "tol" belong to the group of *sugar alcohols* (also known as *polyols*) that are actually carbohydrates, whose chemical structure partly resembles both sugar and alcohol. Some of the more-well known "tol" sugars are xylitol, erythritol, sorbitol, maltitol and mannitol.

Polyols are less sweet than sucrose. They have calories, but the body's inability to metabolize them reduces their caloric count to a negligible .02 to 3.0 calories per gram, as compared to 4 calories per gram for other sugars. The incomplete absorption of polyols also accounts for their lower glycemic index than sucrose or other "ose"

shardunika); the two herbs act synergistically to normalize blood sugar levels. Many people, in fact, report that stevia seems to enhance the effects of other herbs, whether used in herbal teas, tinctures, or in cooking and baking.

There's an obvious chemical difference between a whole plant (or its whole extracts) and isolated compounds of that plant. Therefore, the clear extracts and white powders of stevia may not only lack essential components. Long term, they might be creating an imbalance due to the removal of important components. This will be addressed in more detail later, in the **Herbs** section.

Not-So-Sweet Summary

I have devoted considerable space to sweeteners because they have such an enormous impact on our well-being. "In the last twenty years," writes Bill Misner, "we have increased sugar consumption in the USA [from] 26 pounds to 135 [pounds] of sugar per person per year! Prior to . . . 1890 . . . the average consumption was only 5 pounds per person per year! Cardiovascular disease and cancer was virtually unknown in the early 1900s." ¹²⁵ The food industry, attempting to bypass the long recognized problems of cavities and blood sugar disruption resulting from excessive sugar consumption, keeps synthesizing new "improved" artificial sweeteners that are far more harmful than concentrated "natural" sweeteners. There is no valid reason to use them, ever.

As for so-called natural sweeteners, most of them are at least a couple of steps removed from their original state because they must be concentrated to accentuate their sweetness, and the heat required to concentrate them changes some of their basic charactericteristics. Healthy people can generally handle moderate amounts of natural sweeteners. Those whose health issues are not too severe may tolerate them sometimes. But those who are very ill would be wise to avoid them altogether.

If your adrenals, pancreas and liver are functioning properly and you still crave sugar, the craving may be due to certain foods in the diet that are causing brain chemical imbalances: the wrong types of fats, grains (even if properly prepared), or inadequate or excessive amounts of animal protein. You could be lacking essential minerals. Or you might be harboring *Candida albicans* or other pathogens, all of which thrive on sugar. If you find that sweet tastes stimulate a cascade of undesirable biochemical reactions, no matter what you're using, stop eating it! Quelling a sweet tooth can go a long way toward helping you feel better. If you are addicted to sugar and can't quit, please consult a health practitioner with a solid background in biochemistry and nutrition. It may restore your health and even save your life.

Synthetic Chemicals and Fake "Foods"

There's an entire category of fake foods that transforms the art and science of farming into the industry of food. Among these imposters are imitation "cheese" and texturized vegetable protein (TVP) made from soybean isolates subjected to abnormally high heat; and margarine made from vegetable fats whose molecules are artificially manipulated in ways that don't naturally exist.

Most ingredients that are isolated from their original matrix and radically altered through chemical processes or heat are not only hard to digest, but they have little or no nutritional value. Nutrient-dense food is loaded with flavor, while fake, devitalized ingredients we call "food" are tasteless. It's counterintuitive to deplete the soil with synthetic fertilizers, pesticides and herbicides; raise animals in crowded environments on foods they don't normally eat; raise crops on tired, substandard soil—and then process these "foods" with loads of sugar, salt, and artificial flavorings to make them taste like their more natural counterparts. There is no "need" to enhance food with dangerous chemicals if we grow plants the way they're supposed to be grown and raise animals the way they're supposed to be raised. Real food is delicious. At most, we might want to season our meals with healthy oils, genuine salt, herbs, and spices.

Below are a few ways in which we disguise and alter foods to make them taste better than they really are, and look better than they appeared after they were processed.

Preservatives, Dyes, Fragrances, and Flavorings

So-called natural fragrances and flavors are used in foods as well as cleaners, cosmetics, drugs and skin care items, even if they were never even intended to be edible. Of the over 3,000 additives for foods, half are synthetic flavorings. The majority of flavorings, dyes, and so-called preservatives are manufactured from petroleum. Their contents are legally protected as "trade secrets."

"Trade secrets (as defined by FDA) and the ingredients of flavors and fragrances do not have to be specifically listed," says an *FDA Consumer* article. ¹²⁶ Even if the label reads "contains natural flavors," the flavors are legally allowed to be adulterated or comprised entirely of synthetic chemicals. Synthetic fragrances can consist of up to 5,000 hydrocarbons (derived from petroleum or natural gas), and as many as 200 other ingredients, which instead of being listed separately can simply state "fragrance." Petroleum, natural gas, and their derivatives are not compatible with living systems, but food companies try hard to convince the public that fake foods are innovations rather than atrocities.



The Truth About MSG

Conditions and Diseases

What is the flavoring that makes you crave more of whatever it is that you're eating? It's not the food—it's the chemical monosodium glutamate, or MSG.

For decades worldwide, MSG has been used by scientists to create obese mice and rats used for studies on diet and diabetes. Rats and mice are not naturally obese, so when they're born, scientists have to inject them with MSG—which triples the amount of insulin the pancreas creates—to make the animals fat. The "MSG-treated rats," as the scientists call them, are not the only ones to become obese. So do humans, because MSG appears in almost every manufactured food.

All protein is comprised of amino acids. Glutamic acid, which is an amino acid, is present in protein in its bound state. The minute amounts of free glutamic acid in some unadulterated proteins (such as seaweeds) are not enough to induce a reaction. However, monosodium glutamate (MSG) is actually free glutamic acid that is released in foods through processing. When large amounts of glutamic acid (along with other manufacturing contaminants) are released from processed protein, people eating the food may react negatively to even tiny amounts, either immediately after ingestion or up to 48 hours later. About 30% of the United States population experiences adverse reactions when fed MSG. In their Registry of Toxic Effects of Chemical Substances, The Centers for Disease Control call monosodium glutamate a mutagen and a reproductive effector.

MSG causes problems in many areas.

- Endocrine dysfunction: obesity, reproductive disorders, and diabetes.
- Heart problems: angina, cardiac arrhythmia, high or low blood pressure, and rapid heartbeat.
- Gastrointestinal disorders: diarrhea, nausea and vomiting, stomach cramps, irritable bowel, rectal bleeding, and bloating.
- Muscles and joint problems: aches and pains, chills, shakes, burning, tightness, and numbness.
- Neurological disorders: depression, rage, anxiety, panic and mood swings; migraines; disorientation; dizziness; hyperactivity, behavioral problems, autism, and ADD in children; Alzheimer's; paralysis, numbness, tingling, sciatica and seizures; brain lesions.
- Respiratory disorders: asthma, chest pain and tightness, runny nose, and sneezing.
- Eye problems: blurry vision, difficulty focusing, augmentation of glaucoma, macular degeneration.
- Skin conditions: hives, rash, and flushing.

- Lethargy, sleepiness, and insomnia.
- Urinary tract and genital problems: frequent bladder pain, swelling of prostate or vagina, irregular menstrual spotting, and frequent urination.
- Extreme mouth dryness, mouth lesions, and swelling of face and tongue.

Where MSG is Always Present

Despite the harm caused by MSG, the FDA requires a "monosodium glutamate" label only for products whose ingredients are a 99% pure combination of glutamic acid and sodium. Usually, foods that contain MSG do not have to be labeled as such. Be aware that manufacturers are legally allowed to hide MSG under many different names. The following always contain MSG:

- Monosodium Glutamate (MSG), Monopotassium Glutamate (MPG).
- Glutamate, Glutamic Acid.
- Calcium Caseinate, Sodium Caseinate.
- Yeast, Yeast Extract, Yeast Nutrient, Yeast Food, Autolyzed Yeast.
- Corn Syrup Solids, Modified Corn Starch.
- Accent® and Aginomoto® (two brand names for the pure white crystals).
- AuxiGro®, a plant "growth enhancer" that is sprayed on growing crops (since approval from the US Environmental Protection Agency in 1998).
- Also present when the label says disodium guanylate or disodium inosinate. These food additives work synergistically with MSG, so are unlikely to be used if MSG is missing.

MSG is released from protein when the protein undergoes a process called *protein hydrolysis* (or simply *hydrolysis*), via either fermentation, chemicals or enzymes. The source of hydrolyzed protein could be anything. Although hydrolyzed proteins always contain MSG, the labels usually indicate a type of protein:

- Pea Protein (instead of simply "Pea")
- Corn Protein (instead of simply "Corn")
- Soy Protein (instead of simply "Soy")
- Wheat Protein (instead of simply "Wheat")

Note, pea protein powder is free of MSG if the starch only of the pea is treated—separated from the protein (customarily with enzymes and water), leaving the proteins intact. On the other hand, pea and other proteins always contain processed free glutamic acid if the proteins themselves have been at least partially hydrolyzed—split into their component amino acids.



LEGAL INGESTIBLES WITH PHARMACOLOGICAL EFFECTS

Sometimes, people who are otherwise careful about their diet ingest food, beverages or inhalants whose negative effects earn them the nickname "recreational drugs." The pharmacological effects of caffeine, alcohol, and tobacco are well known and their legal status is currently stable. The pharmacological effects of cannabis depends on the forms in which it's used. Its legal status is arbitrary, depending on the whims of lawmakers.

Chocolate

Chocolate is cherished worldwide, including in the US. Some sources estimate that it comprises a full one percent of the average American's diet. But even though many consider chocolate a food, it has so many pharmacological effects that it's really a drug. This, along with recent extensive publicity rhapsodizing the health benefits of chocolate, makes it worth exploring whether chocolate is worth eating, how much, and under what circumstances.

Chocolate is derived from the seed or "bean" of the cacao fruit, which grows on a tropical evergreen tree belonging to the species *Theobroma cacao*. The cacao tree grows along the equator, mainly in South America and Africa. Its foot-long pods contain up to 50 seeds, each about the size of a lima bean, that are surrounded by a sweet, pulpy fruit. Long before the cacao bean was used for the chocolate confections of today, the fruit was used to make a fermented, mildly alcoholic beverage.

The Mayans were the first to use cacao, but it was the Aztecs who popularized grinding the seeds into a powder that was made into a beverage. To the ground beans, the Aztecs added hot water and spices (often chile pepper), but never sugar. This cacao beverage was not a dessert—it was drunk only by the nobility, priests, revered warriors and merchants, and honored guests. The Aztecs believed that cacao imparted strength, stamina and wisdom, undoubtedly due to the chemicals in the bean. Cacao contains over 300 chemical compounds, but it's the stimulants that exert the strongest and most discernable effects. I'll discuss the major stimulants first: caffeine, theobromine, theophylline, and phenylethylamine.

The caffeine content of a 1.4-ounce (40 gram) piece of chocolate is sometimes compared to the amount in one cup of decaffeinated coffee. But the "decaffeination" of coffee is a misnomer, as all coffee labeled "decaf" contains *some* caffeine; and the standard for decaf coffee ranges from as little as 5 mg to a whopping 258 mg per cup. (The average amount in a cup of decaf averages around 30 mg, depending on the origin of the coffee.)

One cup of cocoa contains only about 5 mg of caffeine. But even a small amount of caffeine can trigger a stress response. As discussed earlier in **Popular Beverages and "Health" Drinks**, caffeine abounds in coffee, cola drinks, and chocolate. Most people agree that there's nothing redeeming about soda pop. But opinions vary greatly about coffee, and especially chocolate. Among other effects, caffeine irritates the gut (causing diarrhea, and sometimes nausea and vomiting). It damages the nervous system (causing mental hyperactivity and then fatigue). And it stresses the heart (causing rapid, irregular heartbeat). Caffeine also depletes serotonin, an important neurotransmitter already deficient in many people.

It's true that one may feel more alert and energetic when eating chocolate (or drinking coffee). But this is due to an outpouring of adrenal stress hormones (including epinephrine); and eventually, with continued use of the caffeinated product, the adrenals become depleted. Epinephrine increases blood sugar levels, insulin resistance, and fat storage.

The alkaloid compound theobromine, another powerful stimulant, is abundant in cacao. It affects the cardiovascular, nervous, and urinary systems. In very small amounts, theobromine can induce mental and physical relaxation. But if ingested in larger amounts, theobromine can cause rapid and irregular heartbeat, nausea, migraines, increased urination, and sweating. People may respond negatively to even a very small amount of chocolate because of the theobromine, which incidentally is highly toxic to dogs in any amount (because they metabolize cacao so slowly). Like caffeine, theobromine can also cause insomnia, tremors, anxiety, and mental confusion. When the body metabolizes caffeine, even more theobromine is produced. This compound is so powerful, it has been used medicinally: to dilate blood vessels, as a diuretic, to stimulate the heart, and to promote weight loss.

Theophylline is another stimulant in cacao, although in only trace amounts. It's used by modern medicine as a drug to treat asthma and other respiratory conditions. Warnings for its "side" effects mention symptoms similar to those of theobromine and caffeine, especially in those who are already sensitive to it.

Of all the stimulants in cacao, the most famous besides caffeine is probably phenylethylamine, abbreviated PEA. PEA is nicknamed the "love molecule" because it's produced naturally in the brain in small amounts when someone is in love. This is why women especially turn to chocolate when a love affair has ended: chocolate's PEA content simulates the effects of being loved, thus helping to postpone the inevitable grief over the loss of a lover. Molecularly similar to amphetamine and the

inhale deeply). Cigarettes also contain polonium-210 five thousand times as radioactive as radium, and a common source of local radiation poisoning—from the high-phosphate fertilizers, made from radioactive rock, that are applied to tobacco crops! The tobacco industry knew about this radiation in 1959, but concealed it. Most tobacco isn't organic, so toxic pesticides are also inhaled.

Cigarette filters are made of glass wool (fiberglass), whose needle-like splinters, inhaled into the lungs, tear and scar the tissue. This damage is similar to that caused by asbestos. Tobacco depletes nutrients. The body uses its vitamin and mineral stores to transmute the chemicals into less harmful ingredients.

Inhaling secondhand smoke is even more damaging than directly inhaling from a cigarette. According to

a 2014 World Health Organization report, direct and secondhand smokers have a 45% percent higher risk of developing dementia and Alzheimer's. Cigarette filters help protect smokers from some of the contaminants; but those exposed to secondhand smoke lack this protection. In some parts of the world, laws have been passed that prohibit smoking in public places. Although these laws seem harsh to some smokers, they help protect the air that we all breathe.

Nicotine is well known for being physically addicting, but there's also a strong emotional component to smoking: many people who quit become depressed. Nicotine causes the brain to create the "feel-good" chemical dopamine, but the body becomes habituated to the nicotine. So, over time, more is needed for the smoker to feel normal. Also, although nicotine initially increases respiration, ultimately it dampens it. Decreased respiration equals decreased awareness of emotions because emotional expression is directly connected to the ability to take full, deep breaths (see the **Bodywork** section later in this chapter). We unconsciously hold our breath when we're depressed, which helps us avoid painful feelings. Thus, the inhibited respiration caused by tobacco ultimately helps us avoid painful emotions. When someone quits smoking, unwanted emotions tend to resurface—which partly accounts for reports of depression in former smokers. It's more empowering to learn to acknowledge, accept, and heal our emotions than to rely on externally administered chemicals that suppress or modify them.

Plain untreated tobacco is less harmful than commercial cigarettes. If you want to smoke, buy organically grown, untreated tobacco and roll your own cigarettes.

Marijuana / Hemp / Cannabis

When correctly used, herbs promote

the elimination of waste matter and

poisons from the system by simple,

natural means. They support nature

in its fight against disease; while

chemicals, not being assimilable, add

to the accumulation of morbid matter

and only stimulate improvement by

—Thomas Alva Edison American inventor of the electric light bulb

(1847 - 1931)

suppressing the symptoms.

Like its botanical relatives hops and nettles, Cannabis sativa tinctures, teas and powders have been used all over the world for centuries to treat many medical conditions. In fact, in the 1800s and early 1900s, the majority of medicines in the United States were derived from cannabis. Not coincidentally, the entire body contains receptor sites for the herb's compounds or *cannabinoids*. During exercise the body produces beneficial endocannabinoids, which are chemically similar to the plant compounds.

When the United States was founded, colonists were legally required to grow hemp, which was used for fabric, rope, paper, fuel, varnish, paint, and edible seeds. Livestock grazed on hemp, and people who ate the animals regularly ingested the cannabinoids. Doctors

recently have these laws been relaxed.

There are many different strains of Cannabis sativa with different properties and a combined total of no fewer than 483 chemical compounds. I will discuss two strains.

legally and routinely prescribed cannabis oil until 1937, when the US government changed the herb's name to "marijuana" and imposed harsh tax laws to prevent it from being freely used. Decades later, marijuana was reclassified as a dangerous drug. Only

Marijuana is raised for its *tetrahydrocannabinol* or *THC*, whose psychoactive effects are augmented when the dried herb is smoked (or sometimes cooked and baked into food). The female plant's flowers, buds, and concentrated resins (hashish) are the most potent. Hemp refers to cannabis that contains less than 0.3% of THC and may or may not contain high levels of *cannabidiol* or *CBD*. Both are therapeutic. After the US government banned cannabis, the plant was selectively bred to *increase* the levels of mind-altering THC compounds and *decrease* the levels of healing CBD compounds. Now that hemp is again legal in the US (providing it's mostly THC-free), cannabis growers are reintroducing the beneficial CBD and other compounds via manual selective breeding (not genetic engineering).

Several hundred medical journal articles, some from the 1980s, show that *cannabis* heals not only heart disease but also neurological disorders, including epilepsy, anxiety, PTSD, Parkinson's, and schizophrenia. Just a few titles are: "A Molecular Link between the Active Component of Marijuana and Alzheimer's Disease Pathology" 151; "Pathways mediating the effects of cannabidiol on the reduction of breast cancer cell proliferation, invasion, and metastasis" 152; and "Cannabis in painful HIV-associated



showing that daily ingestion of echinacea did indeed increase the activity level of phagocytes (white blood cells that destroy pathogens and foreign particles). After five days, the test doses were stopped and blood samples were taken immediately. Phagocyte levels remained high for about two days after the echinacea was withdrawn, but then they returned to their former levels. Had the experimenters continued to monitor the blood levels of the test subjects, they would have seen the immunestimulation effects subside—and presented this data as part of the experiment. The fact that the high white blood cell count remained for two days after the echinacea was withdrawn is a testimony to the herb's effectiveness.

Most tests on echinacea are poorly designed. Sometimes plants with different chemical constituents are used, and

treated as comparable when they're not. Some tests use extracts that are diluted but shouldn't be. Also, most research doesn't use oral doses, but injections—which isn't how the herb is taken anywhere in the world. One much-quoted study used healthy volunteers whose immune function was already strong. No increase of white blood cells was noted, so this gave the impression that echinacea doesn't work! Were

such "mistakes" deliberately made? Very likely, if the studies were funded by pharmaceutical companies.

For centuries, the Native Americans used echinacea for infections because of its ability to support optimal white blood cell function as well as inhibit the mobility of bacteria. The herb has been used (and can be used) with no ill effects, many times daily during illness, and fewer times a day for maintenance. Throughout the years when I took various brands of echinacea tincture, sometimes I'd notice an improvement in my condition, but other times I would not. It was only after I took a class with phytotherapist Kerry Bone that I learned the key to the herb's potency. Echinacea extract causes the entire mouth to tingle and the tongue to feel somewhat numb. If there's no tingle, the formula's dead.

Herbal preparations should be living, like foods. If you don't see results, you may be using the wrong remedy, or using it incorrectly. Or, the product may not have been made in a way that preserved the effects of the plant. Ask questions about the company's research and potency evaluation facilities. And use herbs with a track record. If the herb is newly discovered, or has been used only recently for a specific purpose, read the scientific literature or talk to someone you trust who has done or read the research.

Just as with foods, certain herbs might be wonderful for someone else but not for you. And different herbs can react with each other—sometimes in beneficial ways, sometimes not. For minor conditions, it might be appropriate to take one or just a few herbs, or a time-tested combination formula from a company with a track record. However, for a serious or chronic condition, see a qualified herbologist who can design a protocol for your unique body chemistry and situation.

"Herbal medicine is not an anachronism practiced by ignorant people. . . . A form of herbal medicine is practiced in every culture and in every country of the world, be it industrialized or not," write Bone and Mills. "Something deep within us recognizes that there is healing power in the plant kingdom which, after all,

is the nourishment of all animal life."¹⁵⁷ The idea that pharmacology can replace plants is not only arrogant, but extremely disrespectful to indigenous cultures. Why does modern medicine believe that it can improve, in one century, what native peoples have been practicing effectively for thousands of years?

Vitamins Prevent Chronic Disease

Most people do not consume an optimal amount of all vitamins by diet alone. Pending strong evidence of effectiveness from randomized trials, it appears prudent for all adults to take vitamin supplements.

—Journal of the American Medical Association June 19, 2002

NUTRITIONAL SUPPLEMENTS

The nutritional supplements industry has grown rapidly in the last few decades as more people have become health conscious, despite the persistence of negative myths about supplements. The FDA largely claims that we obtain adequate amounts of vitamins and minerals from the foods we eat, yet its suggestions for our "minimum daily requirements" are based on the needs of rats, not humans. Moreover, the medical establishment periodically issues warnings about some vitamins and minerals as though they were drugs. Finally, the public is misled to believe that all nutritional supplements are essentially the same.

As a rule, the body's first focus is on maintaining reproductive ability and short-term health. Only if there are enough nutrients will it then choose cellular repair. Long term diseases, which involve inflammation and oxidative stress, take a long time to develop. They also indicate chronic nutrient deficiencies.

The chronic illness plaguing us worldwide indicates nutrient starvation. Therefore, in this section I will explain what to look for when buying nutritional supplements. First, here's a very brief overview of some basic nutrients.



That said, nutritional requirements are unique to each individual, and people have different needs at different times. While theoretically whole food supplements may be better, sometimes synthetic nutrients can be very helpful—especially for deficiencies that have been occurring over a long period of time, and if the system needs a jolt to help restore balance. A few good synthetic supplements on the market are made with safe ingredients. If you have a serious health problem and suspect nutritional deficiencies, consult a holistically-oriented nutritionist, osteopath, naturopath, or other practitioner to help you devise a custom protocol. Some chiropractors have special training in nutrition and muscle testing, and can tell you instantly in the office what you need, and how much.

Conversion Difficulties

A surprisingly large number of people have genetic errors (or, more euphamistically, "variations") that prevent them from converting certain nutrients, even those in foods, into what the cells can actually metabolize. The prior Insert, "Nutrient Conversion: Beta-Carotene, Folic Acid, and Other Lies," gives examples of some vitamins that are completely, partially, or not at all bioavailable.

There's one genetic quirk that all humans share, however: the inability to produce Vitamin C in the body. A 2003 *Nutrition Journal* article explains.

Ascorbic acid is widely distributed in fresh fruits and vegetables. It is present in fruits like orange, lemons, grapefruit, watermelon, papaya, strawberries, cantaloupe, mango, pineapple, raspberries and cherries. It is also found in green leafy vegetables, tomatoes, broccoli, green and red peppers, cauliflower and cabbage.

Most of the plants and animals synthesize ascorbic acid from D-glucose or D-galactose. A majority of animals produce relatively high levels of ascorbic acid from glucose in [their] liver.

However, guinea pigs, fruit eating bats, apes and humans can not synthesize ascorbic acid due to the absence of the enzyme L-gulonolactone oxidase. [The gene in humans to produce this enzyme is non-functional.] Hence, in humans ascorbic acid has to be supplemented through food and or as tablets. . . . Synthetic ascorbic acid is available in a wide variety of supplements viz., tablets, capsules, chewable tablets, crystalline powder, effervescent tablets and liquid form. . . . There is no scientific evidence to show that even very large doses of vitamin C are toxic or exert serious adverse health effects. ¹⁷³

Animals whose bodies possess the enzyme to produce ascorbic acid, do so at the rate of 250 mg to 500 mg per hour, every day. These animals aren't susceptible to scurvy, anaphylactic shock, pulmonary tuberculosis, viral leukemia, and other conditions. But humans (and primates and guinea pigs), who cannot produce ascorbic acid in their bodies, are. To get enough ascorbic acid comparable to the serum levels in other species—enough to avoid illness—we must ingest it.

Again, the Natural and Synthetic Camps differ. The Natural Camp believes that if Vitamin C is ingested in whole foods (or food-based supplements), it doesn't take much of the vitamin to prevent illness. The Synthetic Camp believes that our stomachs could not possibly hold all the food we'd need to obtain therapeutic amounts. Each argument has merit. For some people, raw, living juices and high-energy foods are enough. For others—especially those who have suffered from severe deficiencies for a long time, or persistent or serious conditions—food-based supplements are inadequate and synthetic Vitamin C supplementation is necessary.

Guidelines for Effective, Safe Supplements

People who are ill are starved for nutrients. One way to correct the deficit is by obtaining more nutrition from carefully crafted supplements. When used correctly, nutritional supplements do what the name suggests: they enhance, reinforce or supplement the body's vitality, thereby making a huge difference in how we feel and function. Vegetarian supplements are fine, but sometimes animal products such as glandulars are needed. (See Sidebar, "Glandulars.")

Food-based supplements are basically dehydrated, concentrated powders of mostly fruits and vegetables, which can also come as tablets, capsules and occasionally liquids. Often, the co-factors (enzymes, minerals and other substances) that accompany vitamins when they're in food are not put into synthetic vitamins. For this reason, it's wise to take single-nutrient supplements with food or food-based supplements.

Synthetic vitamins are processed in a laboratory. Nevertheless, they can be of high quality, especially if they're extracted from plants instead of toxic materials. If you take synthetic vitamins, make sure that they don't contain GMOs and that they're not manufactured from coal tar, other petroleum products, or noxious chemicals. Avoid supplements from China, which routinely exports contaminated products. Ideally, supplements should contain as few fillers, binders, excipients and additives as possible, many of which are potentially allergenic and often dangerous. Often, though, the benefits of the



Does heating CS cause it to preciptate out of solution? Perhaps a bit, but there's still enough small-particle silver present to help with healing. The heated, lowconcentration silver solution may add back some of the trace amounts of silver that would have been in the food had it been grown on completely fertile soil.

Incidentally, sometimes when I take large amounts of CS to fight an infection, I add alkaline minerals to it just before drinking it—this way, the silver won't precipitate out of solution. Distilled water tends to be acidic, and makes the silver solution acidic. For many people, drinking acidic water is not beneficial. Willard's Water and other alkalizing preparations appear to alkalize the fluid without destabilizing the silver. (See the **Water** section at the beginning of this chapter for more information on distillation, pH, minerals, and Willard's Water.)

Inhalation Therapy

Colloidal silver has been successfully used in treating respiratory ailments when inhaled through a medical nebulizer. A nebulizer is compressor that delivers the CS in ultra-fine droplets of mist. It's either held in the hand or delivers the silver droplets through a tube that's attached to a face mask or breathing apparatus that the user wears. The nebulizer should produce droplets of 2 to 5 microns in size. The effectiveness of the silver is often improved with the addition of very small amounts of essential oils such as lemon, oregano, tea tree, eucalyptus and lavender, which have antimicrobial properties. Sometimes, people add a pinch of MSM (methylsulphonylmethane).

External Use

Colloidal silver is simple to use. To clean and sterilize wounds, simply saturate a bandage or clean cloth and apply it to the skin, making sure to keep it wet. Healing will be rapid, with no pain or scarring.

For virulent or life-threatening diseases such as malaria or HIV, the *concentration* (strength) of CS should not be less than 12 ppm. However, more than 12 ppm is not necessary. Remember, a homemade solution will not yield much more than 25 ppm or more. If you buy any silver product over 25 ppm, it's almost certainly a silver compound, and will not give you the benefits of CS.

It's difficult to "overdose" on colloidal silver. The amount you take should be determined by observed effect and the level of discomfort caused by the Herx symptoms. Two cups per day, divided into several servings throughout the day, is a reasonable amount. Those with cancer, Lyme, HIV, Ebola, or similar virulent infections will benefit by taking more, at least one gallon daily (again, divided into smaller amounts throughout the day).

Every Home Should Have It

To summarize, electrolytically isolated silver (EIS), or what's commonly called "colloidal" silver:

- Causes single-celled pathogens to die, almost instantly, by disabling the enzyme they need for respiration.
- Is effective for serious illness such as HIV, Lyme, cancer, and malaria at concentrations of 12 ppm.
- Affects single-celled microorganisms in a fluid medium (bloodstream, water, etc.), but not in solids.
- Appears to increase immune function in mammals, independent of its pathogen-disabling properties.
- Is an essential nutrient, as it promotes proper immune function, healthy cells, and tissue regeneration.
- Does not create permanent microbial resistance. (Some research indicates that soil-based microorganisms may develop a temporary resistance to concentrated silver, but this resistance leaves in one generation—which, in the case of soil-based organisms, is one to two weeks.)
- Can be ingested by itself, added to food and beverages, inhaled, bathed in, and applied topically to the skin.
- Is painless when ingested or applied.
- Tastes almost like pure water, so is very easy to ingest, even for small children, picky eaters, and animals.
- Is easy to make, requiring a simple device.
- Is completely safe and never poisonous in any amount.
- Is still effective at 25 ppm, although any higher ppm is probably a silver *compound*, which is not desirable.
- If improperly made, can cause a bluish gray discoloration of the skin, which can be reversed.

Today, more than ever, we need a reliable, safe substance that can kill many virulent pathogens—whether it's the simple flu, a stubborn Candida albicans infection, or more advanced diseases such as Lyme, patented strains of Ebola, Morgellons, or some other horror that hasn't yet been seen on all continents. You'll have an advantage if you own equipment for making colloidal silver and use it regularly. For a quick guide to how handy silver can be, see Insert on page 411, "Uses for Colloidal/Ionic/ Electrolytically Isolated Silver."

One more thing. I believe in moderation. Unlike some people, I don't drink EIS every day, but save it for when I truly need it. However, when I do need it (as during an infection), I don't hesitate to drink a pint or more.

Life depends on

signals exchanged

among molecules.

-Nikola Tesla

Croatian-American physicist,

electrical and mechanical

engineer, inventor,

and designer of AC current

(1856 - 1943)

HOMEOPATHY

A Brief History of Homeopathy

Homeopathy, a form of healing even more subtle than acupuncture, belongs to the quantum world of resonance therapy. Even though it usually requires the ingestion of animal, vegetable or mineral substances, homeopathy as with light and color therapy—utilizes frequencies. Like both visible light and invisible wavelengths of the electromagnetic spectrum, homeopathy has profound effects on living organisms.

Homeopathy began in Germany in the 1790s because medical doctor Samuel Hahnemann couln't wait to quit his boring, tedious job of translating German medical documents into English. A local outbreak of malaria soon granted him his wish: He stopped translating to search for a cure. Accounts describing his early research conflict somewhat, but we do know that he first experimented with

chinchona bark. Already widely in use for two centuries as an anti-malaria treatment, chinchona bark contains quinine, which reduces fever, and has analgesic and antiinflammatory properties. Hahnemann discovered that healthy volunteers (including himself) who took the bark developed symptoms that were virtually identical to those of malaria. Noting the similarities between the formula and the disease that the formula was used to treat, Hahnemann began his experiments that eventually developed into the art and science of homeopathy.

As Hahnemann further experimented with various substances, he decided to use lesser amounts because he didn't want his research subjects to become overwhelmed by the effects of—or suffer permanent injuries from—the high amounts of the ingredients he was using. This led to the systematic methodology of homeopathic dosing. He dropped a tiny bit of powdered herb into a bottle of plain water and shook it. Then he put a single drop from the first bottle into a second bottle of plain water and shook the new bottle. Then he put a single drop from the second bottle into a third bottle of plain water and shook that bottle. He repeated this cycle until only the energetic signature of the material, but no physical molecules, remained in the water.

To Hahnemann's great surprise, the strength of the fluid he created did not diminish. It became stronger! He concluded that the shaking of the containers, known as *succussing*, liberated the life force of the ingredients. (Water is an ideal medium for being imprinted. Its ability to "remember" what has been dissolved into it was illustrated by Japanese author Masaru Emoto. His book, The Memory of Water, contains photos of water that has been frozen after being exposed to various words on pieces of paper. When frozen, water imprinted with words like "hate" and "sorrow" forms ugly asymmetrical splotches, whereas water imprinted with words like "love" and "thanks" forms lovely symmetrical crystals. Similarly, polluted water produces ugly asymmetrical splotches, whereas pure uncontaminated water forms lovely symmetrical crystals.) Hahnemann discovered that a homeopathic preparation worked even better to cure a

disease than the more molecularly gross

substance from which it was derived.

Encouraged, the doctor experimented with a wide variety of ingredients, both commonplace and exotic. Just a few examples were the ink of a squid, mare's milk, the mineral calcium carbonate, chamomile flowers, and rattlesnake venom. Hahnemann fed dilute substances to healthy volunteers to see what reactions could be induced. A remedy's

effects were called provings. He carefully recorded the physical, emotional, mental and even spiritual responses of the volunteers—the proving of the remedy—and then he matched their symptom pictures to an existing illness. After intensive cataloguing, Hahnemann amassed a repertoire of safe, effective remedies. The right homeopathic cure always induced a symptom picture similar to the illness for which it was being taken. (One example is Allium cepa, or red onion. Someone with a head cold—with symptoms of sneezing, runny nose and tearing eyes—would take homeopathic red onion because it causes those very same reactions in a healthy person.) Hence, the word "homeopathy" for this modality: it comes from the Greek word homoios, which means "similar." Hahnemann explained that the remedy restored one's vital force, according to the principle of "like cures like."

The doctor's 1806 essay, The Medicine of Experience, presented some fundamental principles of homeopathy:

- The effects of a given remedy can be known only by experimenting on healthy volunteers and not sick people. Otherwise, the symptoms of the disease might be mistaken for the effects of the remedy.
- The choice of remedy is based on the similarity of its effects to the symptoms of a sick person, not on what the practitioner believes is the cause of the disease.
- Remedies are given in small amounts and low doses to prevent unwanted symptoms, which are known as "aggravations."

visited the sauna twice. (The sauna therapy section begins on page 481.) Greta also took lots of Vitamin C, along with a few natural antibiotic herbs (goldenseal, Oregon grape root, and echinacea). However, what I observed that helped her the most—because it directly addressed the afflicted area, her lungs—was nebulizing.

We filled the chamber of my medical nebulizer with homemade colloidal silver, to which we added an essential oil mixture consisting of eucalyptus, oregano, and lemon. The essential oils possess antibacterial and antifungal properties. Only two fragrant drops were added because essential oils are so concentrated and potent, that some of them can burn tissue if they're not diluted. Then Greta turned on the motor and started inhaling the spray of colloidal silver plus essential oils.

My friend instantly felt relief. She preferred this protocol to Rife Therapy, she said, because it didn't take as long. And she liked it much better than a sauna because she didn't enjoy sweating. Greta gave herself at least four, and perhaps six, 15-minute sessions. When she finally left for home, she was feeling a lot better. She was still coughing lightly, although not as often. And her cough was gentle; it didn't rattle throughout her entire chest.

Several months later, Greta telephoned me. She said that just before her visit with me, she'd been with another friend. She only recently discovered that shortly after she left this friend, the woman was hospitalized with walking pneumonia. Greta was certain that she had caught the airborne pathogen from her friend—but because she had taken care of herself in my home, using natural methods, she was able to avoid a potentially lengthy stay at a hospital.

You will very quickly know, with three or fewer 20-minute nebulizer sessions, if this is what you need. Alternatively, you can put colloidal silver into an ultrasonic (not steam) humidifier overnight. If the unit has a filter, remove it so the silver particles reach your respiratory tract instead of becoming trapped. If the ultrasonic mechanism is metal, wipe it clean once a week. You can help yourself a lot, just by inhaling.

Lymph Clearing

The main function of the lymph is waste elimination. You may recall, from the earlier **Exercise** section, that lymph tissue is dense and requires movement to get it to flow.

Exercise, massage, and bouncing on a rebounder have been previously mentioned as helpful to circulate the lymph. Another simple, yet effective, procedure is immersion in hot and cold water in a shower or tub. Heat causes the tissues to expand and cold causes the tissues to contract, so doing several cycles of heat alternating with cold will pump the lymph. Using water in this way is basic *hydrotherapy*. It's used in many parts of the world, especially in enlightened parts of Europe that abound in natural hot springs and sulfur pools. Hot springs resorts also feature cold tubs for just this purpose.

Herbs are helpful for the lymph as well. Astragalus increases energy and stamina, is an antioxidant, and has antibacterial and antiviral properties. It's also a mild diuretic and helps move excess fluid (including lymph) in the body. Echinacea combines well with astragalus. Similarly antimicrobial, it also helps reduce congestion and swelling of the dense lymph. You can also rub essential oils of geranium, juniper, and black pepper onto the skin. Essential oils should usually be diluted, or else they're too harsh. A good ratio is 15 drops in one ounce of carrier oil such as almond, avocado, or jojoba.

Activated Charcoal, Clay, and Castor Oil

Activated charcoal, clay, and castor oil are so effective that their health benefits sometimes seem miraculous. Although these three substances may be relegated to the category of "folk remedies" by establishment medicine, don't let their label, simplicity, or low cost fool you. They all draw out poisons from the body, each in a unique way. In addition to their detoxification function, each has special properties—especially clay and castor oil, which help revitalize cells and even kill pathogens. All of these ingredients can be used externally and internally as long as they are food grade, without contaminants.

Activated charcoal and clay belong to a class of substances known as *adsorbents*. That's "adsorbent" with a *D*, not "absorbent" with a *B*. Despite the variation in only one letter, the two are very different. During the process of *absorption*, atoms, ions or molecules of a substance *penetrate or are sucked inside* other molecules, and become part of the physical structure of whatever solid or liquid has drawn them in. During the process of *adsorption*, the atoms, ions or molecules of a substance *adhere only to the surface* of another substance (the adsorbent). As adsorbents, both activated charcoal and clay draw other materials to them, which attach or fuse to their surfaces.

Being ionically unstable, activated charcoal and clay hold a negative electrical charge. (An *ion* is an electrically charged atom or group of atoms, whose unstable electrons in the outer ring naturally seek to bond with electrons from another source to become stable.) Because of this negative charge, they seek positively charged substances—which happen to be toxins. "In the human body," writes Ran Knishinsky in *The Clay Cure*, "when clay is taken internally, the positively charged toxins are attracted by the negatively charged edges of the clay mineral. An



Meditation Using the Breath

For thousands of years, Buddhist yogic masters stated that panayama and other breathing practices enhance the ability to focus and decrease emotional reactivity. Neuroscientists have confirmed that breathing affects the levels of noradrenaline, a natural chemical produced in the brain. With too much noradrenaline we can't focus. With too little we feel sluggish and unfocused. But with optimal levels—released when we are curious, challenged, focused, emotionally aroused or have been exercising—the brain grows new connections.

By focusing on (along with sometimes regulating) the breath, we can optimize our attention level. Conversely, by focusing on our attention level, our breathing becomes more synchronized. The correct breathing meditation can promote clearer thinking and memory, more stable emotions, and overall health.

forest, or by the side of a mountain, listening to a waterfall or birds, while feeling the warmth of the sun and taking in sunlight through closed eyelids.

Even though you might appear to be "doing nothing" while you rest, your entire system is quite busy! The liver replaces all of its cells every six weeks, we grow a new skin each month, bone cells are replaced every three months, and the stomach gets a completely new lining every four days. People who are ill not only deal with the normal systemic repair and replacement of cells, but their metabolic, excretory and immune functions are working overtime. Unfortunately, in technically advanced countries such as the US, self-worth is too often equated with superior, visible achievement. So it's easy to feel that if we're not pushing frenetically to "make something of ourselves," nothing is happening. But this isn't true; healing is a major job.

New research indicates that naps taken during the early part of the afternoon recharge the mind and body, and decrease the amount of sleep needed at night. For centuries, people in many cultures have taken afternoon siestas; and some businesses in the West are now emulating this practice. Sleeping lounges have been set up for office employees, complete with couches, pillows, blankets, and alarm clocks. Employers are discovering that the 20 or 30 minutes a worker is absent from the job to take a nap more than exponentially increases work efficiency and productivity, as well as morale.

If you cannot nap or get extra sleep, meditation may be a surprisingly good substitute. At least, it will somewhat mitigate the harm of loss of sleep. Let us explore why this possible.

MEDITATION

Until recently, meditation was regarded as esoteric—either the domain of orange-robed yogis, or practiced by ragged sages who renounce all worldly possessions and climb into a secluded cave in the Himalayas. But you don't have to join a religion or cult to meditate (or benefit from it). Some people meditate as part of their spiritual practice, others do it to release stress and relax, others do it to release stress and improve their health, and still others do it for mental and emotional clarity. I will address solely the physical, mental and emotional benefits, as spirituality is personal and subjective.

Whatever meditative technique is employed, the goal of all meditation is to increase mindfulness. *Mindfulness* may be defined as the quality of being attentive, aware, and centered or grounded in one's self. This allows one to focus on goals with equanimity and purpose—which means better managing one's emotions and overall life—instead of becoming distracted and frantic. The Greater Good Science Center at the University of California at Berkeley explains that the concept of mindfulness, which has roots in Buddhist meditation, has recently become more mainstream.

Mindfulness means maintaining a moment-by-moment awareness of our thoughts, feelings, bodily sensations, and surrounding environment, through a gentle, nurturing lens. Mindfulness also involves acceptance, meaning that we pay attention to our thoughts and feelings without judging them—without believing, for instance, that there's a "right" or "wrong" way to think or feel in a given moment. When we practice mindfulness, our thoughts tune into what we're sensing in the present moment rather than rehashing the past or imagining the future. 307

In his comprehensive manual *Practical Meditation*, author and meditation coach Giovanni Dienstmann gives the history of many types of meditation. He explores the many physical, emotional, and mental benefits. He explains how to implement just about any practice you could imagine. And he discusses mindfulness.

Thinking is what the mind does. There isn't much you can do about that. But with meditation, you can calm this noise down. Instead of being lost in your mental chatter, imagine . . . starting your day with more calmness and clarity. You recognize thoughts or monologues as they start to surface and can choose to simply notice them and let them go, or play along with them, but



Unless we put medical freedom in the Constitution, the time will come when medicine will organize itself into an undercover dictatorship to restrict the art of healing to one class of [people] and deny equal privileges to others.

—Benjamin Rush, a signer of the Declaration of Independence



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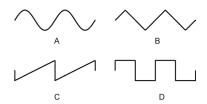


Signal Penetration:

Wave Shapes, Harmonics, and Duty Cycles

One of the most common questions asked by rifers relates to signal penetration. What, besides the correct frequency, allows a signal to penetrate the cells of the body, kill pathogens, and stimulate the system's healing abilities? The answer relates to the shape of the wave, the harmonics of the frequency, and the duty cycle. I promise to make this as painless and understandable as possible. So, let's examine each in turn.

Wave Shapes. The shape of the wave determines whether it will penetrate the tissue. Below is a diagram of four waveforms often used in frequency devices. The most common waves are sine and square, although there are variations of these waves. Each shape has unique characteristics. (For more information about the electromagnetic spectrum, See Appendix C, "Healing with Electromedicine and Sound Therapies.")



Waveforms (A) Sine; (B) Triangle; (C) Sawtooth; (D) Square

Please note: these shapes are not simply visual metaphors. They are the actual wave patterns as seen on an oscilloscope (a machine specially constructed to visually depict waveforms). The shape is a literal indication of what the wave does and how it performs, because each shape graphically represents the rise and fall times of the energy.

- A. Sine wave gently slopes; there is nothing angular about it.
- B. Triangle wave is pointy at the top, as though the energy were thrust or transmitted suddenly, like a knife.
- C. A sawtooth wave, which looks like the teeth of a saw, acts like a triangle wave and is similarly pointy.
- D. Square wave is very different from the other waves. It takes a very brief period for the energy to reach its maximum power level (this is called a rapid rise time). However, once the power is at its highest level (the horizontal line at the top), that level is maintained for a specific duration of the cycle. (One cycle is one complete wave.) The cycle is complete after the power level abruptly drops to zero and the next wave pattern begins.

Here's an analogy describing how these various wave signals perform, and how the body physically responds to them. If you put your hand on someone's back and exert a steady pressure, she will shift her weight and learn to compensate for your push. The relatively slow rise and fall times of a sine wave gives the body a chance to recognize, make adjustments for, and eventually ignore the signal. If, however, you suddenly push that person with the same amount of pressure, she will fall. The sudden thrusting quality of triangle and sawtooth waves takes the body by surprise. Similarly, the rapid rise and fall time of a square wave does not give the body a chance to compensate. However, the flat top line of a square wave means that after the body is taken by surprise, there is a relatively long period when the signal is steady. The body (and pathogens) may or may not reject the signal.

The shape of the wave is important not only because of the rise and fall times of the energy. The wave shape is also important because of the *harmonics* it produces.

your medical condition with you or tell you which frequencies to use. In the eyes of the law, this constitutes medical advice. If such conversations do take place and are discovered, the seller can go to jail for practicing medicine without a license, and the company may be forced to close.

For these reasons, you will not—or should not, if the company is obeying the law—find references to the diagnosis or treatment of disease in company literature, be it printed or on a website. But remember, this isn't the manufacturers' fault. (In fact, many machine builders I know personally became interested in the technology when they themselves became ill, or they wanted to help their family and friends. They'd probably love to help you if they could!) If the seller doesn't want to discuss your disease, it's important to respect their boundaries.

Below are some codes of behavior that are reasonable to expect from a seller, along with guidelines on what to look for when you're in the market to purchase a rife machine. The following are common sense suggestions, so they could apply to any electronic equipment and any supplier. However, they're especially important concerning a machine that you're buying to restore your health and possibly save your life.

Your Needs

For what purposes are you buying this equipment, and for whom? Do you want something to use for a brief period or for long term? Is this equipment intended for a group to use at the same time (in which case, you'll need a radiant plasma unit) or for an individual (in which case, you can purchase a cheaper electrode unit)? Is it for a human or an animal (in which case, you'll need a radiant plasma device)?

Accessibility of Manufacturer

Know who you are dealing with before you buy, and make sure the seller is accessible. I would not buy an expensive piece of medical equipment without knowing the name of the seller, having a way to reach him/her by telephone rather than just by email, and being able to verify all contact information. If you have questions about how to use the device, or if your machine breaks, you want to be able to contact the seller easily and quickly. A bona fide company has a contact person, a phone number and a physical address (not just a post office box), and a staff that returns your calls within 24 to 48 business hours.

If possible, purchase a unit that can be serviced in your own country. And make sure it's a reputable company or dealer rather than someone who sells machines "on

the side"; you want a company with the facilities for rapid service, tech support, and repair. I've heard several stories from upset people who, after paying for their devices, had problems with the equipment and tried to contact the vendors. The sellers didn't answer the phone, or didn't even seem to have a phone. These customers were then stuck with equipment that didn't work. (I wonder, did it ever do the job for which they bought it?) Unfortunately, there are charlatans in the health field, as in any other market. A few unscrupulous individuals who take advantage of desperately ill people can ruin the good names of the far greater number of honest sellers. I strongly advise against purchasing a unit from an "under the table" company, even if the unit is much cheaper than others. Your health and life, or the health and lives of your loved ones, may depend upon it.

Customer Service and Technical Support

It's important to feel comfortable with the seller, who is a vital link in your support network as you embark on your healing protocol. You have every right to expect technical support—which includes phone conversations, and not just emails—for setting up the equipment, using it correctly, and troubleshooting for malfunctions. Expect a staff member to return your calls within 24 or 48 business hours, or even sooner if you're ill and it's an emergency.

A reliable manufacturer will always test and re-test the unit before it's shipped. Does he or she expect to make improvements to the machine? As machine technology becomes more sophisticated, upgrades can be important. Ideally, the machine should have been made to easily accommodate future additions and upgrades with a minimum of expense. The company should provide upgrades (if applicable) either for free or for a modest sum.

People with cancer must use their equipment each day—at least once, and even twice—and they can't afford to be without it. Some vendors are nice enough to send out a "loaner" until the customer's is fixed. This is great customer service indeed.

Don't expect to be given medical advice. This isn't the job of a manufacturer or dealer, even though you might be tempted to ask for it (especially if your doctor doesn't know anything about this technology). It's understandable if you want the seller to provide medical advice and even emotional support. But remember that in some parts of the world, dispensing medical advice, in conjunction with selling equipment not legally mandated for medical purposes, is against the law. The seller could be heavily fined and even go to jail for breaking this law. As a buyer and



Frequency Equipment from Pulsed Technologies continued



iCS (imprintable Colloidal Silver) maker

Connects to Pulsed Technologies PFG 2Z (right), earlier model generators, and the P3Pro. To manufacture colloidal silver, it uses Pulsed Technologies PFG Lab software (included). The ionic silver solution is created with silver particles up to 50 ppm. A second, optional step imprints the fluid with frequencies the user selects. The solution can be used in the same manner as any homeopathic or colloidal silver solution.



VSG (VitaSet Generator) Size: $7.5" \times 9.5" \times 1.5"$ deep

VSG, controlled by microprocessor, aids those affected by high electrosmog environments.

Day Mode: Cycles throughout the five primary natural Schumann Resonances.

Night Mode: Cycles through certain subharmonics of Schumann Resonances corresponding to regenerative brainwave states to help induce sleep (via brainwave entrainment).

Unit can be set to automatically switch between day and night modes, or it can be manually overridden. Operates on universal AC or battery for travel; adaptor and plugs included.



The Appropriation of Language

Most people aren't aware that the word "device" has been appropriated by the FDA. The common(sense) definition of the word, used in normal and casual conversation, is "a piece of equipment or a mechanism designed to serve a special purpose or perform a special function [such as] smartphones and other electronic devices."26 Based on this definition, it's natural to assume that the phrase "frequency equipment" or "rife machine" can be used interchangeably with the phrase "frequency device." However, according to the FDA website, when used in a context that suggests medicine or the elimination of a health problem, a "device" can "range from simple tongue depressors and bedpans to complex programmable pacemakers with micro-chip technology and laser surgical devices." The FDA website further states:

If a product is labeled, promoted or used in a manner that meets the following definition in section 201(h) of the Federal Food Drug & Cosmetic (FD&C) Act it will be regulated by the Food and Drug Administration (FDA) as a medical device and is subject to premarketing and postmarketing regulatory controls. A device is: "an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including a component part, or accessory which is: recognized in the official National Formulary, or the United States Pharmacopoeia, or any supplement to them, intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of any of its primary intended purposes." 27

The FDA has appropriated other words as well. If a frequency equipment manufacturer uses the words "treatment," "disease" and "cure" in conjunction with their equipment—and the unit has not been approved by the FDA for medical purposes—then the manufacturer can be legally accused of falsely labeling a machine for medical purposes, and could go to jail.

Q. What can I expect to feel during a rife session?

A. There are several possibilities.

- Changes in energy levels. You may feel more relaxed or more energized. This primarily relates to the beneficial effects of many frequencies on cell metabolism and the normalization of tissues, independent of pathogen devitalization.
- ♦ A Herxheimer reaction. If a pathogen is being devitalized or deactivated quickly, you may feel the effects of a die-off (see the previous question, "What is a Herxheimer reaction?"). However, normally it takes several hours or even a day to experience this type of response. If your equipment is truly devitalizing or killing pathogens, you'll experience less of a Herx reaction the next time you use the equipment—assuming that your next session is within a few days. If you wait a week or longer between sessions, this will give the pathogens an opportunity to recolonize.
- ◆ A physiological response. You may respond to a certain frequency that feels like a "hit." Australian rifer and massage therapist Ken Uzzell defines a hit as "an immediate physiological response that the body generates as a result of a frequency."28 Any notable sensation felt during a session could be a hit: itching, prickling or burning on the scalp and skin; watering eyes; the clearing of sinuses or runny nose; chest tightness; churning stomach; altered breathing; quickening pulse; tingling nerves; noise in the ears; pressure in the joints or muscles; and twitches (some of which might be focused in the feet or hands). You may simply have a vague sense that "something" is happening. Uzzell reports that users experience tingling at the site of tumors and fatty lumps that are being kneaded while his plasma device is running. Hits seem to be felt primarily when frequencies below 20,000 Hz are being used, because these are in the range of the nervous system. Jason Ringas, of the now-defunct Rife Research Group of Canada, once wrote: "When people talk about feeling a 'hit,' what they are describing is clearly a physiological response. There might also be an MOR effect taking place, but that effect can't be felt because when you're targeting an organism it takes time for it to clear out of the body and for the damaged tissue to repair. The audio frequency physiologic effect is very important in its own right, but it cannot be explained in terms of the MOR effect."²⁹

- 14. Run frequencies for Lyme, even if you think you aren't affected. Lyme has become astonishingly prevalent and can mimic so many other disorders that it's worth rifing for it. Lyme is complex and difficult to eradicate. See Chapter 5.
- 15. *Eliminate electrosmog*. Harmful electromagnetic fields cause pathogens to proliferate and impair cell function. See Chapter 1, How We Become Ill.
- 16. Eliminate silver-mercury amalgam fillings. The mercury in fillings continually leaks, as vapor, into the mouth. Even at parts per billion (ppb) amounts, mercury is highly toxic! Some homeopathic remedies and electromedical devices can nullify the effects of mercury. You may require chelation (see Chapter 5, Chemical Sensitivity / Poisoning and Dental). If possible, get your amalgams removed a holistic dentist.
- 17. *Eliminate mouth infection*. The mouth is a potent breeding ground for bacteria and the teeth are connected to every meridian in the body. Thus, "local" infections starting in the mouth can migrate, and cause even apparently unrelated conditions including heart attacks.
- 18. Try Chinese Medicine diagnosis. There are relationships among all organs, glands and body systems. You might not be able to affect your condition with frequencies specifically for that condition, but focusing on related points may help. For instance, the spleen "controls" the mouth and lymph; so if the spleen has deficient or excess energy, you could have a gum infection or clogged lymph vessels. Similarly, the kidneys "control" bone health; so if the kidneys are weak, you could suffer bone loss (osteoporosis). These relationships may not make sense to the Western mind, but they're still valid. Many acupuncturists obtain excellent results using pad units for hardto-treat conditions by placing the electrodes at the site of meridians and acupuncture points.
- 19. Reassess your lifestyle: diet, exercise, sleep, stress, and contaminant levels. Some people use Rife Therapy allopathically: they zap pathogens to eliminate disease without paying attention to what made them ill in the first place. If your diet is high in carbohydrates, sugars and fake food, you'll feed the pathogens. Don't underestimate the importance of food in becoming and remaining healthy. Similarly, if you don't get enough sleep or the proper exercise, and don't manage stress, you may remain ill. See Chapter 1, How We Become Ill, and Chapter 3.

- 20. *Eliminate radiation stress*. Everyone on the planet is affected by high levels of radioactivity. See Chapter 3, **Detoxification**, for details.
- 21. *Try other therapies*. If you're drinking enough mineralized water (and are using the correct frequencies) and you feel fatigued, congested, nauseated, thirsty, and/or have flu-like symptoms, try some protocols discussed in Chapter 3, Detoxification. If you're still not getting the results you want, consider adding another option such as Spectro-Chrome color therapy. Rife technology is compatible with virtually all holistic modalities. It has been used somewhat less successfully in conjunction with allopathic medicine (drugs), although people do combine rifing and medically necessary surgery with good results.
- 22. Learn to release, manage and make peace with your emotions, and eliminate any beliefs that may contribute to being ill. Some frequencies provide relief from emotions such as anger. This makes sense, because microorganisms constantly excrete poisonous wastes that cross the blood-brain barrier and damage the brain. The brain is the primary organ of emotions, perception, sensory input, motor function, and cognition. Therefore, toxins can affect mood, motor coordination and the ability to think, as well as exacerbate or outright cause numerous neurological disorders. Approaching emotional and mental issues from a psychological perspective is important too. See Chapter 3 and Appendix A for more information on some easyto-use, self-help therapies.
- 23. Be aware that there are some conditions that rifing may not be able to correct. These include permanent damage caused by nutritional deficiencies, damage due to drugs or toxic chemicals, severe trauma due to surgery or mechanical injury, and damage due to the effects of electromagnetic radiation as long as the radiation continues to exist. However, it can't hurt to try. Some of the frequencies may at least help regenerate tissue or alleviate pain.

If you have a medical condition, consult a qualified professional. If you are rifing, find someone familiar with Rife Therapy, such as a naturopath, chiropractor, osteopath, herbalist, acupuncturist, or holistic physician.





Some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician.

— HIPPOCRATES, "FATHER OF MEDICINE" GREEK PHYSICIAN (460–400 BC)



Chapter 5 Outline Frequency Directory

This outline does not include single, stand-alone entries, which are in alphabetical order.

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Hz sets:

975.39 (lower limit), 979.11 (most effective), and 986.54 (higher limit)

900.28 (lower limit), 902.27 (most effective), and 905.49 (higher limit)

890.86 (lower limit), 912.18 (most effective), and 918.38 (higher limit)

More Clark; run each frequency for at least 5 minutes. Bacillus ranges from 393.5 to 398.05; from 363.2 to 365.3; and from 359.4 to 370.5.

Spores range from 386.95 to 391.45.

You can also try: 398.05

For more complete coverage, keep multiplying the base number by 2. Double 398.05 to 797, and sweep 2. Then double 797 to 1594, and sweep 2.

You can also try: 364

For more complete coverage, keep multiplying the base number by 2. Double 364 to 728, and sweep 2. Then double 728 to 1456, and sweep 2.

You can also try: 387.25

For more complete coverage, keep multiplying the base number by 2. Double 387.25 to 774.5, and sweep 2. Then double 774.5 to 1549, and sweep 2.

Higher Clark numbers:

19665.89, 18122.49, 18321.64, 19317.38, 961.76

Also try: Sweep from 622 to 644

Bacillus anthracis Spores

From Hulda Clark. Use the Hz set for devices unable to reach the KHz range. There's such a wide range in the frequencies, you may want to run a sweep.

KHz set: 386950 (lower limit), 388K (most effective), 391450 (higher limit)

Hz set: 959.15 (lower limit), 961.76 (most effective), and 970.31 (higher limit)

Also from Dr. Clark: 386.95 to 391.45

Bacillus botulinus / Botulism

Food poisoning from spoiled food that has been improperly canned or left unrefrigerated in hot weather. Bacillus botulinus produces a potent neurotoxin, causing nausea, vomiting, intense abdominal cramping, fatigue, headache, difficulty swallowing, distorted vision, diarrhea, paralysis, and sometimes shock and unconsciousness leading to death. Also see the "Salmonella" entries in this BACTERIA section; and CHEMICAL SENSITIVITY / POISONING.

172, 518, 533, 639, 660 + 690 + 727.5, 683, 691, 802 +1550, 831, 1372, 1552, 10K

Bacillus coli or B. coli

See "E. coli / Escherichia coli" in this BACTERIA section.

Bacillus licheniformis

This bacterium has different forms, producing short and long rods, cocci, and branched filaments that superficially resemble a fungus. It can morph into cancer. Historical literature that mentions the "cancer germ" describes it as a gram-positive, non-acid fast anaerobe.

From Dr. Jeff Sutherland: 2655, 21554

Bacillus thuriniensis

520, 902, 1405, 2551

Bacteroides fragilis

633 to 637

From Hulda Clark. Use the Hz set for devices unable to output frequencies in the KHz range. There's such a wide range in the frequencies, you may want to run a sweep.

KHz sets:

324300 (lower limit) and 325K (most effective and higher limit)

325700 (lower limit) and 326K (most effective and higher limit)

803.86 (lower limit) and 805.59 (most effective and higher limit)

807.33 (lower limit) and 808.07 (most effective and higher limit)

Also from Dr. Clark: 16180.80, 16230.58, 808.07, 805.59

Bartonella bovis

Infects cattle but can affect other mammals and humans. Symptoms are similar to those of Bartonella quintana (below). Run with a 2 Hz sweep, in decimal increments. 344.6

Bartonella quintana / Bartonellosis / Febris Wolhynia / Wolhynia Fever / Trench Fever / Quintan Fever / **Shin Bone Fever**

The infection from *Bartonella quintana* has been called by many names, including "Urban Trench Fever" because it was known to affect the homeless, alcohol abusers, and inner-city folk of low income. It was called "Trench Fever" during World War I because the symptoms were first noted in Allied soldiers who fought in the trenches. Just like the disease, the bacterium has changed names. A member of the *Rickettsia* family, it used to be called Rochalimaea quintana, but was recently reclassified as Bartonella quintana.

There are several species of the *Bartonella* bacterium, which among other places live in North Africa, Mexico, and North America. Some species are spread by sand flies in the Andes Mountains of Peru, Columbia and Ecuador. Yet other species are carried by fleas, body lice, various species of biting and wingless flies, and ticks. In California alone within the last decade, five different strains of Bartonella were identified.

The bacterium Bartonella quintana was originally thought to proliferate in the gut of the body louse (an

Pathogens Subvert Our Brain Chemistry

A parasite is an animal, plant, or microorganism that "grows, feeds, and is sheltered on or in a different organism while contributing nothing to the survival of its host." ⁶ Bacteria, viruses, fungi, protozoa, and worms are all parasites.

Scientists have begun to discover how parasities affect their hosts mentally and emotionally as well as physically. The answers are astounding.

Over the last 500 million years, parasites across phyla have evolved mechanisms to elude, inhibit and subvert host defence mechanisms. Some parasites also directly or indirectly interact with host nervous systems, leading to a change in host behavior. . . . In some cases, the change in host behaviour enhances parasitic transmission . . . We are beginning to understand how parasites gain control of the brain of their hosts. Parasites can affect host behaviour by: (1) interfering with the host's normal immune-neural communication, (2) secreting substances that directly alter neuronal activity via non-genomic mechanisms and (3) inducing genomic- and/or proteomic-based changes in the brain of the host. . . . Parasites typically induce a variety of effects in several parts of the brain. . . . Midline CNS structures such as the thalamus, brain stem and basal ganglia are preferentially infected in both dogs and humans.7

Bryan Rosner applies this understanding to the Lyme pathogen specifically, whose toxins sabotage our behavior and attitudes for its own benefit.

As scary as it sounds . . . parasites actually take control of their host's mind. . . . With Lyme disease, the most common manifestation of this phenomenon seems to be that parasites limit a person's drive, ambition, and motivation to get well. Somehow, people are convinced that they are not that sick, and that aggressive treatment is not required or desirable. This is one of the reasons why it is so important to be under the care of a good doctor who can prescribe the necessary treatments. Be aware that you may have been pacified by the parasites in your body, and you may need to work diligently to get well despite the feeling that your problem isn't urgent.8

For this reason alone, people with Lyme would be wise to seek professional assistance.

you're feeling so you (and your health practitioner) know which pathogen to focus on eliminating next.

One more thing. Lyme, its co-infections, and their toxins make it difficult to maintain emotional balance (see Sidebar, "Pathogens Subvert Our Brain Chemistry"). Make sure to address your emotional state, because the infected host may experience anxiety, depression, aggressiveness, memory loss, obsessive-compulsive behavior, and even schizophrenia and suicidal tendencies. Many people with Lyme become depressed and despairing, believing that their health will never improve. Despite appearances, however, these psychological manifestations are not individual character defects, but indicate damage to the sensitive brain and nerve tissue that have been invaded by the drilling spirochetes. "Once people understand that their emotional states are in fact rooted in physical degeneration," writes Rosner, "it can be much easier to deal with the symptoms and say to oneself, 'I'm not going to let these feelings dominate me, because I know they...aren't really who I am."

Finding a way to maintain hope is critical to healing. Practitioners recommend that even after apparent success from rifing, continue for six months to one year to make sure all stray pathogens are eliminated. Your protocol also includes any herbs and supplements that have helped you.

Rife Therapy kills *Borrelia* successfully, but only when the pathogen is circulating through the bloodstream in its spirochete form. A "Doug device" (named after the inventor) and its offshoot, the "coil" machine, are reported to reach and disable pathogens with frequencies delivered by magnetic fields. However, the emissions from these units are strong and may cause harm to some people. The magnetic pulser is milder and safer. Another magnetic unit, the hand-held Magnetex[©], which works by pulling debris from the tissues, may be especially helpful. According to one doctor, the Magnetex[©] successfully draws out even dormant pathogens from the spinal fluid. For increasing cell voltage, you can try the Avazzia[™] or the Tennant Biomodulator®. Each person responds differently, so experiment to see which equipment works best for you. See Appendices A and C for more information on these electromedical devices.

Except where indicated, the frequencies below do not distinguish between *Borrelia* varieties. Lyme often occurs with other similar illnesses carried by the same insects, so also see "*Ehrlichia chaffeensis* / Ehrlichiosis" and "*Rickettsia rickettsii* / Rocky Mountain Spotted Fever" in this **BACTERIA** section; and **PARASITES**, **PROTOZOA AND WORMS**, "*Babesia* / Babesiosis." Also see, under **CHEMICAL SENSITIVITY** / **POISONING**, "Mercury, Aluminum, and Other Contaminants," because the pathogens feed on heavy metals. In addition, what is believed to be a new parasite has recently been discovered in people with Lyme, so also see **PARASITES**, **PROTOZOA AND WORMS**, "*Funis vermis* / *Homo Funis vermis* / Ropeworm."

Three-day protocol: One researcher recommends different sessions for Day #1, Day #2, and Day #3. These numbers are for a low-range unit. Use the other protocols first.

On Day #1, use frequencies between 2093 and 2205 in intervals of 8: 2093, 2101, 2109, 2117, etc.

On Day #2, use frequencies between 2096 and 2208 in intervals of 8: 2096, 2104, 2112, 2120, etc.

On Day #3, use frequencies between 2099 and 2211 in intervals of 8: 2099, 2107, 2115, 2123, etc.

Cancer not killed by 2008 or 2127.5: 2180, 2182, 2184

From Dr. James Bare: 10025, 10026, 10027; with an experimental sweep of 10022-10029

Pain from cancer, all types: 95,660 + 690 + 727.5,2008, 2127.5, 2720, 3K, 10K, 40K (run as long as you want)

If mercury or other heavy metals are involved, see CHEMICAL SENSITIVITY / POISONING. Also see LIVER AND GALLBLADDER, Liver, "Hepatitis C"; the "Herpes" entries under VIRUSES; BACTERIA, "Chlamydia trachomatis"; and all applicable entries under PARASITES, PROTOZOA AND **WORMS**. Also see "Candida albicans" and similar entries under CANDIDA, FUNGI, MOLDS AND YEASTS, if there is fungal involvement in the cancer you're managing. You can also run sweeps across the 450 to 900 Hz ranges, to which most bacteria and molds, and also some viruses, appear to respond. According to Dr. James Bare, viruses also seem to respond in the 1450–1850 Hz ranges, so run sweeps here too. When sweeping, set your unit for 30 seconds per one Hz step. The program may be about 3 hours long; but if your condition is severe, it's worth trying.

Adenoma, Cervical

See "Uterine Cancer or Tumor" in this **CANCER** section.

AIDS

AIDS, possibly a form of cancer, is often considered a virus; so see VIRUSES, "HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)."

Astrocytoma

See "Brain Tumor / Astrocytoma" in this **CANCER** section.

Bacillus X Virus

See "BX Virus" in this **CANCER** section.

Bacillus Y Virus

See "BY Virus" in this **CANCER** section.

Basal Cell Carcinoma

See "Skin Cancer" in this CANCER section.

Bladder Cancer

329, 635, 847, 867, 9889

Dissolve Tumors Faster Using Two Units at the Same Time

To break apart tumors, Dr. Richard Loyd has conducted experiments running two frequency units at the same time, each set for a different frequency. This arrangement may work up to five times more rapidly than running a single frequency from one unit, due to a phenomenon in physics where two simultaneously running frequencies create a third wave pattern. These setups are especially useful when your machine cannot transmit in the very high Megahertz (MHz, or millions of Hz) range in which cancer viruses are known to oscillate.

The protocols below are named after the Rife researchers who used them. Using the first protocol, one experimenter reported destroying a tumor in just one week. Be careful! People with brain tumors or lung cancer must use fewer minutes per program because a tumor that's destroyed too rapidly can cause serious complications due to the immense amount of debris flooding the system.

The Scoon Effect. This method involves using two signals that are 1 Hz apart. You will need either two radiant plasma units or the Atelier Robin F165 electrode device (which can run two frequencies simultaneously). All equipment must be able to output frequencies to at least one decimal point place. On one plasma unit, run the main frequency and on the other plasma unit, run a second frequency just 1 Hz above the main frequency. On the F165 and other electrode generators that can output more than one frequency simultaneously, run both frequencies together.

The following frequencies are specified for equipment that cannot reach the MHz range. If possible, these programs should be used at a duty cycle of 73:

Example 1: 727 and 728, for at least 30 minutes

Example 2: 2007 and 2008, for at least 30 minutes

Example 3: 2127 and 2128, for at least 30 minutes

The Holland Effect. This method involves using two signals, one of which is a multiple of the other. You will need two radiant plasma units. On one unit, run the primary frequency and on the other, run the 11th harmonic of the primary frequency. For this protocol, it's important to set your units to emit square waves to ensure that the signal emits enough harmonics.

Example 1: 1K and 11K for at least 30 minutes

Example 2: 2127 and 23,397 for at least 30 minutes

For more information, see Richard Loyd's website, www.royalrife.com.



-G-

GALLBLADDER ISSUES, ALL

See all entries under LIVER AND GALLBLADDER, "Gallbladder."

The rotting of soft tissue, due to frostbite, injuries, boils, or poor circulation. Also see BACTERIA, "E. coli / Escherichia coli," and circulation frequencies under HEART, BLOOD AND CIRCULATION.

1.1 + 73, 20, 660 + 690 + 727.5, 787, 880

GARDNERELLA

See under **BACTERIA**.

GAS, INTESTINAL

See "Flatulence / Intestinal Gas" under Colon / Large Intestine or Small Intestine, both under GASTROINTESTINAL TRACT.

GASTRIC CANCER

See "Stomach Cancer" under CANCER.

GASTRITIS

See under GASTROINTESTINAL TRACT, Stomach and Esophagus.

GASTRO-ESOPHOGEAL REFLUX DISEASE (GERD)

See "Acid Reflux / Gastro-Esophogeal Reflux Disease (GERD)" under GASTROINTESTINAL TRACT, Stomach and Esophagus.

GASTROINTESTINAL TRACT

The digestive tract is a huge muscular tube extending about thirty feet from the mouth to the anus. Lining the entire tract is soft mucous membrane that protects the tubing from foreign substances. (Food is foreign until the body breaks it down and makes it a part of its own tissue.) The musculature's involuntary, smooth, rhythmical, wave-like movement (peristalsis) pushes the food down the esophagus or food tube to the stomach, down to the small intestine, and then to the colon or large intestine.

Digestion begins in the mouth, as enzymes in saliva break down starches into simple glucose. The taste and even smell of food stimulate increased production of saliva and signal the other digestive organs to be ready to receive food—so it's important to chew well, leaving food in the mouth as long as possible. Chewing also breaks down the indigestible cellulose coating of fruits and vegetables, liberating the nutrients. Chewing also creates more surface area on the food so digestive enzymes can break it down further. Once the food travels down the esophagus (food tube) and through a small sphincter to the stomach, the stomach churns the food and combines it with more digestive enzymes so it becomes a relatively smooth, thick fluid called chyme. The chyme moves through the opening at the lower end of the stomach

Supplements for the Digestive Tract

- Digestive Enzymes. With each meal, take amylase to break down starch, protease to break down proteins, and lipase to break down fats. Also take hydrochloric acid, which digests proteins, to supplement what the stomach produces (or doesn't).
- Probiotics. Replenish some of the friendly flora. Keep in mind that the healthy human intestinal tract contains many more beneficial bacteria than what can be taken in supplements.
- ◆ *L-glutamine*. As a powder, this amino acid helps heal the intestinal wall. It also curbs carbohydrate cravings and builds muscle.
- ◆ Aloe Vera. The inner leaf heals, soothes and repairs the mucous membranes. The outer leaf is a laxative.
- Slippery Elm Bark. Taken as a powder, mixed in water and drunk immediately, it soothes and heals the mucous membrane lining of the gut.
- Activated Charcoal and Clay. Bind to toxins in the gut; can be used in cases of food poisoning (see Chapter 3, **Detoxification**).

(pyloric valve) into the first section of the small intestine, or duodenum. Carbohydrates enter the small intestine first, then proteins, and then fats. Digestion and assimilation primarily occur in the first two sections of the small intestine. Then the material moves through the ileocecal valve, located at the end of the small intestine, and then into the colon or large intestine. Whatever undigested material is left leaves the small intestine and enters the large intestine as a very thick paste. The remaining usable liquid is absorbed, after which the waste collects in the rectum at the end of the large intestine, to finally leave the body through the anus.

The gut—the overall term for the digestive organs shares an interesting relationship to the central nervous system: they both evolved independently from the same embryonic tissue. The human digestive tract and the spinal cord each contain over one million nerve cells. In fact, the digestive system contains more nerve cells (as the enteric nervous system) than the peripheral nervous system. Major brain neurotransmitters (including serotonin, dopamine, norepinephrine, nitric oxide, and glutamate) are in the gut when food is present.

The brain and the gut are also linked by the vagus nerve, a kind of "neural cable" that's the longest of all cranial nerves. The vagus nerve travels from the brain stem, through the neck and chest organs, to the abdomen. The abdominal cavity is literally a second brain, and gives physiological and biochemical validity to what we call "gut feelings." The gut produces, and sends to the brain, pain-alleviating and mood-altering chemicals similar to those found in drugs (or rather, the drugs attempt, unsuccessfully, to duplicate the Of the frequencies for many types of inflammation, note that 6.3 and 3.6 are also used for irritability and whining. For muscle- and tendon-related inflammation, see MUSCLES. For nerve-related inflammation, see BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS. Also see INJURIES and REGENERATION AND HEALING.

1.3, 10.5, 3.6, 6.3 + 148, and especially 2489 and 2720 for pain

INFLAMMATORY BOWEL DISEASE (IBD)

See "Crohn's Disease / Inflammatory Bowel Disease (IBD)" under GASTROINTESTINAL TRACT, Colon / Large Intestine.

INFLUENZA VIRUSES, MANY

See under **VIRUSES**.

INJECTIONS AND INOCULATIONS, TO DETOXIFY FROM See "Vaccinations, Reactions to" under CHEMICAL SENSITIVITY / POISONING.

INJURIES

For muscle, ligament, and other soft tissue tears, pad units are usually more effective than plasma. Place electrodes on either side, or at the front and back, of the inflammation site.

Apply cold and then heat. Cold packs work best within 72 hours of an injury. They constrict blood vessels, preventing an unhealthy accumulation of blood and lymph at the injury site. Leave cold pack on for 15 minutes, remove it for 15–30 minutes. Repeat cycle two or three times. Swelling should substantially decrease. Use heat after swelling has subsided. Heat brings blood (and thus oxygen and nutrients) to the area.

Supplemental Therapies for Injuries to reduce swelling and pain and speed healing

Electromedicine

- Magnetex®, Avazzia™, Tennant Biomodulator®, BEMER®, Wave Therapy, LEDs. See Appendix C.
- ◆ Tuning Element[™] Relief Patches. See Appendix C.
- Spectro-Chrome Color Therapy. Inexpensive and low-tech. See Chapter 3.

Homeopathy

- Arnica, Hypericum, Ruta Grava. 9C, 12C, or 30C dose.
- Rescue Remedy®, T-Relief®, above remedies together.
 Combination formulas available as liquid, pellets, or in ointment/cream form. Apply creams externally.

Analgesic Creams / Gels / Sprays

 Tiger Balm® and similar preparations containing menthol, wintergreen, natural camphor, clove, mint, cassia, and other herbs.

Enzymes (oral supplements and creams)

 Protease. Bromelain. Papain. Lumbrokinase. Nattokinase. Serrapeptase. Take orally on an empty stomach so they scavenge protein debris in blood instead of digesting food. Apply creams topically. Also see entries under MUSCLES; BONE AND SKELETON; BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS; and especially INFLAMMATION, for tips on additional protocols.

Always use 2720 (a good overall frequency for pain), 10K and especially 40K (for tissue restoration), and frequencies for your specific symptoms.

Backache, including Spasms

A spasm is a movement due to a sudden involuntary muscular contraction. It can be quite painful. Many microbes can be involved, particularly *Staphylococcus*. Please note that these frequencies are not a substitute for a chiropractic adjustment if the skeletal alignment is off or the spinal cord is torqued or twisted. Muscle spasms often indicate a magnesium deficiency. Also see entries under **URINARY TRACT**, *Kidneys*, as pain in the lower back can sometimes indicate kidney inflammation or infection. From Dr. Richard Loyd (for neck pain as well, and in this order): 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 155.56, 185, 207.65, 233.08, 138.57, 155.56, 185, 207.65, 233.08, 4.9, 6, 9.19

Then try: 519.34 for 20 minutes

Then try: 677 (for 20 minutes), 760 (for 10 minutes), and sweep from 326 to 328

And then try: 26 (for 15 minutes), 33, 41.2, 120, 146, 160, 212, 240, 305 (for 6 minutes), 326, 333 + 523 + 768 + 786, 424, 464, 465, 466, 522, 528, 555, 660 + 690 + 727.5, 760, 784, 787, 789, 800, 802 + 1550, 880, 1552, 2112, 2720 (for as long as needed), 3K, 5K, 10K, 40K

Bruise / Contusion

Pain, swelling and discoloration of skin, without any cuts or breaks in the skin.

9.1, 110, 2720, 10K, 40K

Bursitis

Inflammation of connective tissue, mainly around joints. This condition may be caused by a great many pathogens. Also experiment with the arthritis, tendomyopathy, and sprain frequencies. White blood cells require enzymes to break down the waste products of inflammation (as well as infection), so taking proteolytic (protein-digesting) enzymes such as protease and bromelain may help. 660 + 690 + 727.5, 787, 880, 10K, 40K

Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)

Inflammation of the forearm, wrist and fingers, due to repetitive motion that places excessive stress on the tendons, ligaments, and musculature. Some research indicates that 15 Hz helps escort calcium into the cells. 6.3 + 148, 15, 20.5, 146, 444 + 1865, 465, 522, 600 + 625 + 650, 660 + 690 + 727.5, 685, 700, 737, 760, 776, 787, 802 + 1550, 832, 880, 1K, 1500, 2008, 10K, 40K

tendons, ligaments, and muscles. For soft tissue injuries, electrode units may produce better results than plasma. One researcher thinks that 15 Hz might stimulate cells to receive calcium.

20.5, 6.3 + 148, 15, 146, 444 + 1865, 465, 522, 600 +625 + 650,660 + 690 + 727.5,685,700,760,776,787,802 + 1550, 832, 880, 1K, 1500, 2008, 10K

Contraction

Twisting of muscles and spine. 9.1, 110

Convulsions

Sudden, involuntary movements of the musculature. Also see BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS, "Epilepsy." Seek medical advice for this condition.

660 + 690 + 727.5, 787, 880, 10K, 40K (for as long as desired)

With spasticity: 7.69, 8.25, 9.19, 9.2

Coordination Difficulties / Locomotor Dysfunction

Results might be slow if nerve damage exists, but even brain cells can regenerate, so keep trying. Also see BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.

7.83, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650,660 + 690 + 727.5, 787, 776, 807, 813, 880, 1500,1600, 1800, 2170, 2720, 40K

Cramps, Leg / Intermittent Claudication

Caused by arterial spasm or narrowing due to arteriosclerosis. Another cause of cramps is deficiencies of the following minerals, or imbalanced ratios of the calcium/magnesium or sodium/potassium pairs.

45, 48, 10K, 40K (for as long as desired)

Dupuytren's Contracture

Contraction of the fascia (the membrane envelope around muscles) in the hand, causing the ring and little finger to bend into the palm so they can't be straightened. Massage with castor oil to loosen the fascia.

1.2 + 250

Dystonia, Vegetative

Dysfunction of the involuntary muscles. 20, 40, 120, 240

Fascia, to Soften

Fascia is the connective tissue envelope surrounding muscles. When it's tight or rigid due to emotional stress or adhesions, the muscles lose their flexibility and become stiff. Rolfing is massage that kneads the fascia, increasing muscle flexibility. Also see **FIBROMYALGIA** and the "Cyst" entries under TUMORS, BENIGN.

Natural Protocols for Muscle Aches

Magnesium. Abundant on Earth, in sea water and in plant chlorophyll, this mineral is key to over 300 enzyme pathways and cell functions. For stability, magnesium must be bound to something else. These substances affect absorption and confer different properties, although they can overlap. Taken orally, magnesium can be bound to an amino acid chelate: magnesium aspartate, with high absorption and retention, protects brain, heart, and muscles; arginate increases blood flow and improves glucose transport into cells; and glycinate is gentle on the bowels and induces calmness and relaxation. There are also magnesium citrate, a laxative that may inhibit kidney stone formation. Malate relaxes. Orotate inhibits the stress hormone adrenaline (thus helping with sleep), and penetrates cell membranes (thus delivering the mineral to mitochondria and the nucleus). Oxide relaxes muscles but is heavily laxative, so it's not taken often. Taurate helps the heart. And threonate crosses the blood-brain barrier, helping with mental focus. Mangesium chloride, a viscous oily liquid, is applied to the skin to relax muscles. Magnesium sulfate, or Epsom salts, is added to bath water to relieve sore muscles.

Enzymes. All have anti-inflammatory properties: pancreatic enzymes, lumbrokinase, serrapeptase, nattokinase, and protease. Taken orally on an empty stomach, the enzymes are used in the bloodstream to scavenge inflammatory proteins instead of for digesting food.

Homeopathy. Single-ingredient remedies arnica, hypericum, and ruta grava are available in pellet form, taken orally. Combination formulas Rescue Remedy® and T-Relief® are available as pellets or liquids (taken orally) or ointments that are applied externally. Tuning Element™ Relief Patches lessen pain (see Appendix C).

Electromedical Equipment (see Appendix C for details).

- Avazzia[™] and Tennant Biomodulator®
- **BEMER**
- LEDs (red or blue wavelengths)
- Magnetex®
- Wave Therapy

Heat and Cold. Cold packs usually work best within 72 hours of an injury. Cold constricts blood and lymph vessels, preventing blood and lymph accumulation at the injury site. Leave cold pack on for 15 minutes, remove it for 15 or 30 minutes, and repeat the cycle two or three times (but not more). The swelling should substantially decrease. Use heat after swelling has decreased. Heat brings blood flow (and thus oxygen and nutrients) to the area.

For topical relief and healing of the skin, the skin must be exfoliated, or gently scrubbed so dead material is removed from its surface. Pathogens must be eliminated so the skin doesn't become infected. And the dry skin must be moisturized.

Many of the following ingredients have multiple functions. Some people are irritated by what others find soothing, so experiment with combinations. For an exfoliation paste, try baking soda and finely ground sea salt in a little water, perhaps with antibacterial Manuka honey. Coconut oil possesses germicidal, anti-inflammatory, and moisturizing properties. Gently scrub the skin with what you find soothing, rinse, and repeat. Vitamin A contains natural retinol, which encourages cell turnover and helps prevent the hair follicles from clogging. Some people simply squeeze the oil from several capsules onto the affected areas and gently massage it in. (The liver has a high Vitamin A requirement.) Some people find relief from Vitamin E, dribbled onto the skin in a similar way.

The final group of ingredients are both germicidal and astringent, with the ability to contract tissues and thus diminish discharges: raw apple cider vinegar (available in most health food stores and now even supermarkets) and citrus oils. Essential oils of lemon, grapefruit, or orange can also be helpful. In lieu of essential oils, you can boil the chopped rinds of these citrus fruits in water for about 10 minutes. Strain, and refrigerate the yellowish liquid in an airtight jar, applying with cotton as needed. The essential oils should also be refrigerated to keep them fresh.

See frequencies for other entries in this **SKIN** section. Also see entries under CANDIDA, FUNGI, MOLDS AND **YEASTS** if there is a fungal component to this condition. Make sure to address applicable entries under LIVER AND GALLBLADDER, Liver. If this condition persists, see **AUTOIMMUNE DISORDERS.**

Leukoderma / Vitiligo

Deficiency of pigmentation of the skin. White blotches appear, usually covering small areas of the skin but slowly become larger over time. There is some evidence that this is an autoimmune condition in which the body destroys its own pigment cells, or melanocytes (so called because they are comprised of melanin). Causes can include impeded circulation, and physical and emotional stresses (with resulting hormonal imbalances). There might be other autoimmune diseases in the family, along with diabetes, hair loss, hypothyroidism, and possibly even cancer.

Internally, take B-complex vitamins (including PABA, part of the B-complex). Use PABA cream externally. See BACTERIA, "E. coli / Escherichia coli"; PARASITES, PROTOZOA AND WORMS, "General (unspecified)"; applicable frequencies under LIVER AND GALLBLADDER, Liver; various entries under CANDIDA, FUNGI, MOLDS AND YEASTS; and AUTOIMMUNE DISORDERS. Also see **BACTERIA**, "Mycoplasma, many types," as this infection is often the beginning of autoimmune conditions.

20,440,444+1865,600+625+650,660+690+727.5, 787, 880, 2112

Lipoma

Fatty tumor, usually benign and in clusters, often just beneath the skin. It is not known exactly what causes lipomas, but improper fat metabolism and liver dysfunction are thought to be involved. Also see "Liver Cancer" and other entries under CANCER in case the tumors become malignant; as well as various entries under LIVER AND GALLBLADDER, Liver.

47 (for 5 minutes), 606 (for 5 minutes), 709 (for 5 minutes), 2K to 2200 (sweep, or in increments of 5 Hz with 30 seconds to 1 minute for each increment)

Mange / Follicular Mange / Scabies

A contagious dermatitis, caused by mites, which primarily reside in the hair follicles. This primarily affects mammals. From Jimmie Holman. The research team of Pulsed Technologies emphasizes that the frequencies be delivered in precisely the order written, and that they might not work on units other than those manufactured by Pulsed Technologies: 64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

Also try: 90 to 110, 253, 693 (for 10 minutes), 701, 774, 920, 1436, 2871, 5742

From Hulda Clark: 735K or 1821.88 (for devices unable to accommodate frequencies in the KHz range)

Melanoma metastasis

See under CANCER.

Mole

Raised benign tissue on skin, usually dark. A mole can grow due to a systemic overgrowth of Candida albicans, so also see this and the many other entries under CANDIDA, FUNGI, MOLDS AND YEASTS.

20, 120, 177, 464, 600 + 625 + 650, 626, 659, 660 +690 + 727.5, 784, 880

Mycosis Fungoides

See under CANCER.

Pemphigus

Rare autoimmune disorder. Symptoms include blisters in the outer layers of the skin and in the mucous membranes of the nose, mouth, and throat. Also see **AUTOIMMUNE DISORDERS**, and entries for the affected area of the body. 665, 694, 893

148, 149, 206, 211, 216, 423, 846, 1194, 1195, 1196, 1692, 3383, 3389

Ebolavirus / Ebola hemorrhagic fever

Ebola is the common term for a group of viruses belonging to the *Filoviridae* family, as well as for the Ebola hemorrhagic fever caused by the virus. The virus is named after the Ebola River Valley in the Democratic Republic of the Congo in central Africa, near the site of the first recorded outbreaks in 1976. The most common symptoms include high fever, abdominal pain, exhaustion, headache, muscle and joint pain, nausea, vomiting, dizziness, and trouble breathing. Less common symptoms include cough, sore throat, skin rash, chest pain, and red eyes. Advancedstage symptoms, presumably occurring in over 50% of subjects, include bleeding from the nose, mouth, anus, and deeper organs. This disease affects chimpanzees, gorillas, forest antelopes, and monkeys as well as humans. Some believe that the animal carrier is the fruit bat.

Early symptoms of Ebola are sometimes mistaken for malaria, typhoid fever, dysentery, or influenza. The internal bleeding, the inability of the blood to clot, and the blood platelet destruction caused by Ebola is in many ways similar to Dengue Fever. The incubation period used to be reported as ranging from 5 to 10 days. Today, various sources—including the WHO (World Health Organization) and the CDC (Centers for Disease Control)—state that the incubation period may last for 42 days, and that on surfaces of objects, the virus could last for 50 days. However, incubation rates can change. Also, the virus is apparently mutating to such an extent that it is not always readily detected.

Death rates from Ebola have been reported to range from 30% to 50% and even higher, with sufferers characterized as dull and lethargic. Sources differ as to which symptoms are responsible for death. Variously blamed are: the effects of vomiting, diarrhea or high fever (rather than bleeding); organ failure; and the decrease in blood plasma volume from the loss of bodily fluids.

In its later stages, Ebola hemorrhagic fever is highly contagious. Prior to 2014, it was transmissible primarily via body fluids, and sometimes via skin and mucous membrane contact. However, it now appears that Ebola is airborne as well. Also, viable viruses have been found on dead bodies even after one week. Moreover, people supposedly cured from Ebola are now being found to have relapses. "Post-Ebola syndrome" has been named for lingering symptoms of vision and hearing loss, joint pain, headaches, and memory loss. Some Ebola survivors experience abnormal reflexes (including eye movements) and tremors.

At first, outbreaks tended to occur in remote areas. However, after a new, even more virulent, genetically engineered strain of Ebola was awarded a patent in 2010 (see Insert, page 830, "The Politics of Ebola—and Fear"),

an Ebola epidemic arose in Africa in the summer of 2014, creating worldwide panic. Before the genetic engineering of the virus, Ebola was dangerous enough: it had already been classified years ago as a "bioterrorism agent" by the CDC, and medical science stated (inaccurately) that there was no treatment for it. Now this new, weaponized strain of Ebola is even more communicable, via liquids that are expelled from an infected individual. This could be saliva spread through the air via coughing, sneezing or speaking; saliva, vomit, urine or diarrhea hitting a surface and dispersing; or even small splashes of water when a toilet containing infectious material is flushed.

Fortunately, there are a number of successful natural protocols to treat Ebola—methods not readily publicized by the mainstream media. Most of the health professionals publicizing these protocols have chosen to be anonymous. Some therapies are summarized below.

In 1981, Robert Cathcart III, MD, pointed out an intimate connection between Ebola and Vitamin C. Ebola causes the complete depletion of all Vitamin C from the body. Not coincidentally, the very first symptoms of Ebola are consistent with those of scurvy, which is famously known to result from a Vitamin C deficiency. However, whereas scurvy is due to a partial lack of Vitamin C, Ebola is a complete deficiency. Vitamin C, along with bioflavonoids, protects the blood vessels. But without enough Vitamin C, blood vessels weaken and leak blood. Internal and external bleeding is exactly what happens in people stricken by advanced-stage Ebola. Ebola and other hemorrhagic fever diseases also destroy the blood platelets; and without platelets, the blood cannot clot (thus accounting for the leaking). By the time an Ebola sufferer reaches this point, one's immunity has already been heavily compromised. With all the viral hemorrhagic fevers including Ebola, the individual is likely to hemorrhage quickly: the virus so rapidly and totally consumes all of the Vitamin C in the body, that the condition is essentially an advanced stage of scurvy after only a few days of infection.

Typically, all viral hemorrhagic fevers only reach epidemic proportions in populations that already have low body stores of Vitamin C—such as Africans, who tend to be severely malnourished. Once the Vitamin C stores are gone, the immune cells cannot fight the infection. Therefore, it's imperative to get sufficient amounts of Vitamin C into the body immediately, even before the infection has taken hold. The Vitamin C supplementation should be steady because the kidneys excrete Vitamin C every two hours if the body isn't using it. Interestingly, most animals can manufacture their own Vitamin C, but humans (and a few animals) cannot.

Cathcart emphasized that Ebola and the other acute viral hemorrhagic fevers may require 500,000 mg (500 grams) of Vitamin C daily before diarrhea occurs. (Diarrhea indicates that the body cannot use all the Vitamin C it's receiving at the moment, and is called "bowel





Slowly an apprehension of the intimate, usable power of God is growing among us, and a growing recognition of the only worthwhile application of that power—in the improvement of the world.

—CHARLOTTE PERKINS GILMAN,

American writer, poet, lecturer, social critic and activist (1860–1935)



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that's not what *he* needs to do. Do you think you can let go of him if he needs to die?"

Shelly burst into tears. During the next hour, we addressed her attachment to her father and any possible remaining unresolved issues between them. After a very candid, heart-to-heart talk, and some eidetic imagery work that I facilitated, Shelly decided not to pursue rifing—or any other modality, for that matter. She did, however, decide to visit her father in the hospital and tell him that no matter what he wanted to do, she would unconditionally support him.

I didn't speak to Shelly after that phone call, but about nine months later she sent me a lovely gift with a note. "Thank you so much for helping me let go of my father," she wrote. "Right after we spoke, I went to say goodbye to him. It was his last lucid week. I told him that I would miss him terribly, but had forgiven him for wanting to leave. I'm at peace now." I was happy to hear of Shelly's positive experience with her father's death. They both got what they needed—and what they needed wasn't Rife Therapy. It was the ability to let go. Shelley's father was able to let go of his wasted body and his fear of leaving it. And Shelley was able to let go of her need to keep him alive at any cost. Paradoxically (but not surprisingly), when Shelley let go, she and her father were able to share some of the closeness that she (and undoubtedly he) had craved. They both also experienced a sense of resolution and completeness. This closure allowed her father to have one form of rest, and gave Shelley another.

Sometimes, the letting go that people experience is not a relinquishing of the body, but a release of old habits and unproductive ways of thinking. When we let go of what we don't need, healed emotions and a different way of life can enter to fill the void. I've had the privilege of witnessing such unexpected (and delightful) changes. Extraordinary, determined people, with so-called incurable illnesses such as Stage IV cancer, refuse to accept a medical pronouncement of "less than one month to live"—and miraculously begin to reverse their condition within days of starting Rife Therapy. And I cannot count how many times people have said to me, "My doctor told me that if she hadn't seen my 'before' X-rays, she would never have believed that I had cancer." There are many such cases, and I find them inspiring and moving. The biggest triumph is knowing that you can approach life on your own terms.

Death may come soon, or it may come later. We may not have conscious control over when we leave. But we can make the most of whatever time we have. Being honest about who we are can energize us in ways that we may never have imagined.

Communicate with Your Doctor

I think it important to tell your physician about anything that you have done or used to improve health. There are some good reasons for this. First, your doctor begins to understand that there are other ways to heal than what he was taught in school. Second, the doctor needs to know what you are doing so that possible interactions with any medications or treatments can be avoided. Third, as your doctor learns from you and others, he won't be making statements based on prejudices and misinformation acquired in school.

If the medical world won't build a bridge to us, we must build one to them. In doing so, everyone wins.

—James Bare, DC chiropractor and patent holder of the Bare-Rife machine October 21, 2004

Doctor Support, or Lack of It

We can always use support. It's nice to get it from our health care provider, although that isn't always possible. For those who have a life-threatening illness, however, a lack of support can feel devastating. I have heard many horror stories about medical doctors who are not supportive to those entrusted to their care.

- "My doctor was very upset that I didn't follow his regimen, even though I got better and eventually became cancer-free. Why did he get so upset? He should have just been happy that I'm still alive."
- "My doctor said I was terminally ill and had weeks to live. But then he got mad at me for refusing surgery and a blood transfusion! Why? If, according to him, I was going to die soon anyway, why should I put myself through the torture and cost of an operation—which in the end wouldn't even matter? The doctor kicked me out of his office and told me never to come back. He told all his colleagues not to see me, either. Well, it's four years later and I'm still here. The other day, I saw him walking toward me. He crossed the street so he wouldn't have to say hello. He doesn't want anything to do with me."
- "I don't understand why my doctor turned on me. Oh well, when you've been like a god for so long, it's hard when your worshippers find a new religion."
- "As a chiropractor, I've heard many stories from people with so-called terminal diseases about how their doctors were aggressive and verbally abusive because they got better and didn't die."



The term "conspiracy

theory" was created

in the 20th century

to debunk alternative

views that threatened

establishment lies.

—J.D. Heyes

Natural News, March 28, 2017

divide and conquer. Throughout history, divide and conquer has proven to be an effective way to further the goal of the dominator paradigm. The dominator credo says: "If they don't have enough to live comfortably, convince them that others in a similar position are responsible. Make them so mistrustful and fearful of each other that they'll be too busy fighting among themselves to come after us. If they do have enough to live comfortably, convince them that they're worthless unless they have more. Then they'll be too busy seeking status and more possessions to bother with us."

People all over the world accept the labels that the dominator paradigm assigns. It's not uncommon for one group of people to feel indifference, mistrust, or hatred

toward other groups. Also, people who struggle daily may understandably envy or hate those whom they believe don't have to struggle. But negative emotions poison us and prevent healing on all levels. We can be so busy pointing accusing fingers at our neighbors that we forget our capacity to be considerate, loving beings.

Although the elite's access to material resources and status does help make their lives easier, the dominator paradigm is destructive to them as well as to everyone and everything else they try to control (see Insert, "The Dominator Mentality").

Privacy in This Electronic Age

We have become dependent on—and outright addicted to—technology in ways we could never have foreseen. Chapter 1 (pages 11–16) discussed the effects of this on our health. Also affecting our health (though less directly) is our vulnerability to the spyware that is increasingly being embedded in electronic items we use every day.

Being online makes us very vulnerable to invasion. If you use Google, the most well known search engine, you're tracked whenever you make online purchases. This is why many articles you access on the web are accompanied by ads for items you have bought or viewed. Google gives information on all its users to the US government which isn't surprising, considering that circa 2003, Google accepted two million dollars from the National Security Agency (NSA), well known for specializing in surveillance.⁴⁰ In 2017 Google Chrome, the widely used web browser, was given the ability to scan *all* the files on any computer whenever there were mandatory updates. Those files can be accessed by the government or police.

You are also vulnerable if the Windows 10 operating system from Microsoft is installed on your computer. This system has built-in spyware that tracks every Internet site you visit by analyzing and recording all of your keystrokes and clicks of the mouse. Microsoft then sells this data to third parties, which earns the company more money than it makes from its software sales. (That is why Microsoft offered customers free upgrades to Windows 10, and advertised so relentlessly for it.) In addition, Windows 10 allows the installation of third-party software. Customers must click the "I approve" box during installation in order to even use the operating system. The third party programs that are installed could be games, but they could be spyware, too; and Microsoft doesn't pre-screen any of these programs. People who want to remove the spyware require help from an experienced computer technician. Future versions will undoubtedly have these features too.

> Our fondness for new and fancy gadgets (including, of course, our "smart"

phones) has brought our lack of privacy to a new level. Consider Alexa, a wireless interactive virtual assistant whose software is housed in a small cylinder that rests on a table or other surface. Created by Amazon, Alexa is promoted as helping in countless ways—from choosing your radio stations and turning your lights on and off, to making phone calls

and telling you the balance in your bank account. Not only is Alexa voice-activated, but it records as well as listens. Alexa can malfunction, and it often does. It can be hacked. And every single interaction consumers have with their fascinating and sometimes amusing virtual assistant is fair game for any government agency that wants to hear or use that data. However, as the Electronic Privacy Information Center wrote in July 2015, "Americans do not expect that the devices in their homes will persistently record everything they say. It is unreasonable to expect consumers to monitor their every word in front of their home electronics. It is also genuinely creepy." 41 We have lost the right to choose what we share.

Televisions as well as phones are now "smart." People watching commercial TV are bombarded by products if they own an Alexa. When a commercial is aired, an ultrasonic signal from the TV speakers activates Alexa and tells it to open a browser on the television screen so consumers can learn more about the product.

Google, when installed on Android "smart" phones, behaves in ways similar to Alexa. Phone owners are told that its recording software is activated only when they say "okay, Google" (or a similar directive). However, simply saying "okay" during normal conversation can also activate the phone to record. Plus, the microphone can switch on at any time. The feature can be turned off, but only temporarily; the "off" setting must be renewed regularly.

The privacy of children is also at risk. In 2015, the Mattel toy company released a high-tech Barbie doll

The Buddha of Oakland

Dan Stevenson is neither a Buddhist nor a follower of any organized religion. The . . . resident in Oakland's Eastlake neighborhood was simply feeling hopeful in 2009 when he . . . purchased a 2-foot-high stone Buddha and installed it on a median strip in a residential area . . . He hoped that just maybe his small gesture would bring tranquility to a neighborhood marred by crime: dumping, graffiti, drug dealing, prostitution, robberies, aggravated assault and burglaries.

What happened next was nothing short of stunning. Area residents began to leave offerings at the base of the Buddha: flowers, food, candles. A group of Vietnamese women in prayer robes began to gather at the statue to pray.

And the neighborhood changed. People stopped dumping garbage. They stopped vandalizing walls with graffiti. And the drug dealers stopped using that area to deal. The prostitutes went away. . . .

Since 2012, when worshipers began showing up for daily prayers, overall year-to-date crime has dropped by 82 percent. Robbery reports went from 14 to three, aggravated assaults from five to zero, burglaries from eight to four, narcotics from three to none, and prostitution from three to none. . . .

To this day, every morning at 7, worshipers ring a chime, clang a bell and play soft music as they chant morning prayers. The original statue is now part of an elaborate shrine that includes a wooden structure standing 10 feet tall and holding [more] religious statues, portraits, food and fruit offerings surrounded by incense-scented air. . . . On weekends, the worshipers include more than a dozen people: black folks, white folks, all folks . . . Two weeks ago, a group of German tourists visited the shrine. . . .

Soon after its installation, a would-be thief tried to pry the statue from its perch, but Stevenson had secured him with reinforced iron bar and "\$35 worth" of a powerful epoxy—and Buddha didn't budge. . . . The Buddha has withstood two attempts to remove him from his watch, one criminal and one governmental. Neither has worked. . . .

In 2012, after a resident's complaint, the city's Public Works Department tried to remove the statue but received such passionate blowback from neighbors that city officials decided to table and "study" the issue. Two years later, the administrative effort is long forgotten, and Buddha is still there. . . .

—excerpted from Chip Johnson, "Buddha seems to bring tranquility to Oakland neighborhood," SF Gate, September 15, 2014

www.sfgate.com/bayarea/johnson/article/Buddhaseems-to-bring-tranquillity-to-Oakland-5757592.php

Self-Empowerment Equals Spiritual Maturity

Holism is more than just another, or merely different, system of healing. It's the deepest level of healing. It requires a radical change in one's world view, with a whole-hearted commitment to treating our fellow human beings, the animals and plants with whom we share this planet, and the planet itself, with esteem and appreciation. A holistic approach also means understanding that healing takes place on many different levels: physical, mental, emotional, and spiritual.

Around the time that Royal Rife was seeing living microorganisms through his Universal Microscope, Wilhelm Reich was telling whoever would listen that our natural state as self-regulating organisms is love rather than fear. Love equals expansion and fear equals contraction. Expansion means actualizing our divine needs for love and community. Contraction means feeding hatred and greed. If we lived our lives in resonance with what was truly important—love—would theft, torture, or murder exist? Would genetically engineered organisms or toxic pesticides exist? Would we allow our natural resources to be depleted? Would governments be permitted to suppress solar powered and "free energy" inventions (unless people it liked benefited financially from them)? Would governments have the power to force populations to be medicated against their will? Would people who believe differently from those in power be thrown in jail? Would governments wage war and use biological and nuclear weapons? And would people be taught to hate and fear what they don't understand?

Sometimes in the rush to improve themselves, people grab onto the latest technique or product like just any other consumer item. If we treat holistic healing in this manner, it will become just like mechanized allopathic medicine—dressed in a gentler and prettier package perhaps, but still contaminated by an approach to consumption that is the opposite of holism. Is it not greed, a lack of connection, and a deprivation mentality that made us sick in the first place?

We can't afford to keep doing what we have been doing. People are becoming sicker rather than better. Can we clear any and all emotions that don't resonate with the frequency of love? And are we willing to take the intellectual, emotional, and spiritual risks—each in our own way, of course—to help us return to a healed state? Royal Rife took gargantuan risks. Can we each take one? Think of the quality of life we could have by sustaining a culture that supports health instead of illness, expansion instead of contraction, and life instead of death. Right now, the old paradigm mainstream culture is focused on death. A. Van Beveren writes:



Resources

Most people live, whether physically, intellectually or morally, in a very restricted circle of their potential being. They make use of a very small portion of their possible consciousness, and of their soul's resources in general, much like a man who, out of his whole bodily organism, should get into a habit of using and moving only his little finger. Great emergencies and crises show us how much greater our vital resources are than we had supposed.

—William James, American Philosopher, Psychologist and Writer (1842–1910)

Unless otherwise specified, all addresses are in the United States. Inclusion of the following products and services should not be construed as unconditional endorsement.

AIR PURIFICATION

Plant Air Purifier® 138 Maple Hill Drive Kingston, New York 12401

phone: 855-247-9900

website: www.plantairpurifier.com

Based on research of NASA scientist Dr. B.C. Wolverton, the Plant Air Purifier® uses a common houseplant—along with a small, built-in electric fan in a specially equipped planter—to purify indoor air. The system includes activated carbon (to attract toxin particles from the air) and washed ceramic media (instead of soil) to hold the plant. While microorganisms naturally living on plant roots consume toxins and convert them into nutrients for the plant, the fan circulates air through the roots and into the room. This ingenious system cleans up to 100 times more air than a regular plant, and requires only water and occasional plant food.

BODY-MIND THERAPIES

Emotional Freedom Techniques (EFTTM)

website: www.emofree.com

Whenever physical or emotional trauma occurs, our acupuncture meridians become unbalanced, which can lead to mental and physical health problems. EFT™, developed by engineer Gary Craig, is used to manage the effects of abuse, restoring the integrity of the short-circuited meridians without drugs or equipment. It alleviates or eliminates entirely: addictive cravings, anxiety, depression, fears, grief and phobias, as well as physical pain, breathing difficulties, headaches and overweight. EFT™ (also known as "tapping") is self-administered and easily learned. It's effective for children, adults and even animals, with a clinical effectiveness of over 80%. Mr. Craig's website offers a free, downloadable EFT™ manual. Other people who learned EFT™ from Craig have created modalities that resemble EFT™, but Craig's method of teaching may yield the safest and most comprehensive results. Mr. Craig also offers an EFT[™] practitioner certification course.

Buhner Healing Lyme

website: www.buhnerhealinglyme.com

Award-winning author of over twenty books on herbal medicine, Stephen Harrod Buhner's comprehensive educational website is one of the most valuable resources for people with Lyme and co-infections. Although Buhner doesn't offer private consultations, he does respond to reader questions each month on his website.

National Health Federation

website: www.thenhf.com

A grassroots organization working to guarantee your right to use the doctor, nutrition, or therapy of your choice.

Natural Health News

website: www.naturalnews.com website: www.truthwiki.org

Cutting-edge information related to health and health politics, founded by Mike Adams. TruthWiki was created to counteract the medical propaganda on Wikipedia.

Organic Consumers Association 6771 South Silver Hill Drive Finland, Minnesota 55603

phone: 218-226-4164 fax: 218-353-7652

website: www.organicconsumers.org

Public interest, grassroots organization promotes worldwide food safety, organic farming and sustainable agriculture. Addresses food adulteration of all kinds, including genetic engineering. Promotes honest food labeling, USDA food standards and more, through education, activism, boycotts, lobbying, media relations and litigation.

Pesticide Action Network North America 1611 Telegraph Ave, Suite 1200 Oakland, California 94612

phone: 510-788-9020 website: www.panna.org

PANNA provides information on chemicals, agriculture, food, and alternatives to pesticides, and conducts political actions (including lawsuits). Subscribe to their free newsletter and sign their petitions.

www.brighteon.com

YouTube, Facebook, and other high-profile Internet media are banning public figures in the field of alternative health, politics, and other fields that criticize and dismantle mainstream lies. In response to this censorship, Mike Adams of Natural News has created an alternative to YouTube.

Price-Pottenger Nutrition Foundation 7890 Broadway

Lemon Grove, California 91945

phone: 800-366-3748 (toll-free)

619-462-7600 (local and international)

website: www.price-pottenger.org

Based on the work of Weston Price and Frances Pottenger, provides information on healthy lifestyle, ecology, nutrition, alternative medicine, farming, and organic gardening.

Truth in Labeling Campaign 850 DeWitt Place, Suite 20B Chicago, Illinois 60611

phone: 858-481-9333

website: www.truthinlabeling.org

Information on MSG, artificial sweeteners, food coloring, and related issues.

The Weston A. Price Foundation PMB 106-380

4200 Wisconsin Avenue, NW Washington, DC 20016

contact: Sally Fallon Morrell, MA

phone: 202-363-4394 fax: 202-363-4396

website: www.westonaprice.org

Disseminates the work of Weston A. Price, who documented native diets that prevent tooth decay and maintain health. Publishes an outstanding journal and other literature on food and healing. Be aware, however, that this organization appears to have financial interests in a cod liver oil company that sells products of questionable value.

FREQUENCY DATABASES

CAFL

website: www.electroherbalism.com/Bioelectronics/ Frequencies and Anecdotes / CAFL.htm

FREX

website: www.rife-beam-ray.com/frex

Free interactive downloadable database available from Australian rifer and massage therapist Ken Uzzell. Upgrade for a very modest fee. This system is used worldwide with speakers, headphones, electrodes and even plasma tubes.



Legal Implications of Rife Sessions

It is no measure of health to be well adjusted to a profoundly sick society.

—J. Krishnamurti, Philosopher and Scientist (1895–1986)

NOT FOR MEDICAL USE, PERIOD

Of all the questions that I have been asked about Rife Therapy, one answer that involves considerable elaboration is why it's not legal to provide Rife Therapy to others. This Appendix has been written for licensed health practitioners, people in the healing arts field who are unlicensed or who are not required to be licensed, and laypersons who want to share Rife Therapy with others. Please understand that I am not a lawyer. To write this, I did consult an experienced attorney and a manufacturer of frequency equipment who is versed in the law. However, what follows are only some *general concepts*. Legal matters can be complex, and laws differ from place to place. Therefore, I urge you to do your own research, and if necessary consult an attorney about the laws pertaining to where you live and work. I will be mainly discussing the legal climate in the United States. If you live outside the US this information may not apply to you, so please seek advice from a legal expert in your own country or municipality. Also, laws can change. What follows is the legal situation in the US at the time of this writing.

The foremost point to remember is that Royal Rife's technology was never approved for medical purposes. This means that Rife Therapy is illegal to use for treating or curing any disease or medical condition.

YOU CANNOT BE A "RIFE THERAPIST"

It's against the law to provide Rife Therapy for other people if you're using a rife machine to treat, manage, handle, reverse, cure, or otherwise deal with a disease or a medical condition. This is true whether you are a licensed health practitioner, an unlicensed person in the health field, or a layperson.

Some people who offer Rife Therapy to sick people—for the purpose of treating, managing, handling, reversing, curing, or otherwise dealing with a disease or a medical condition—believe that it's legal to charge for these services, or even give them away for free, if they make the disclaimer that they are not medical doctors and are not diagnosing, treating, or prescribing for a disease. They also believe that if a client signs a disclaimer, this absolves them from liability. This isn't true. If you are offering sessions to treat or cure a disease or medical condition, even if you're not charging for it, you are breaking the law. Take medicine out of the equation! Practicing medicine without a license is against the law.

A licensed health care provider who offers Rife Therapy as a medical treatment is in danger of being censured or fined by their medical licensing board. They are also in danger of losing their license to practice medicine. This is discussed more fully on page 915.

It's not legal to use Rife Therapy for medical purposes.





Healing with Electromedicine and Sound Therapies

The universe is wider than our views of it.
—Henry David Thoreau, American Naturalist and Author (1817–1862)

INTRODUCTION

In the 1960s, counterculture hippies were urging us to give peace a chance (great advice). To expedite that process, it was helpful to have "good vibrations"—considered so important that the Beach Boys wrote a catchy song with this title. It was easy to tell who had good vibes and who didn't. An optimistic, considerate person was considered "high frequency," while a pessimistic, disagreeable individual was "low frequency." Not surprisingly, everyone wanted to be around the folks who had good vibes.

Colloquialism aside, saying that someone is "high frequency" is based on legitimate science. Every molecule, cell, living body, and object is comprised of energy that manifests as physical matter. Some of that energy is detectible as frequencies that belong to one or more radiation bands in the electromagnetic spectrum. And these frequencies correspond to biochemical and biological processes in the body.

In the healing arts, there are different ways to affect matter. With conventional medical care, the chemical, functional, and/or structural change in organs, glands, and other tissues are created either through biochemical manipulation (drugs) or physical manipulation (such as surgery). With electromedical therapies, healing is achieved by working with the electromagnetic radiation

(emissions) and related energy fields that form, and are emitted by, physical matter. Basically, electromedical devices produce and focus specific frequencies that can be in the form of electromagnetic fields, electrical current, magnetism, visible light, heat, or other energy.

Although electromedicine is widely used in Europe, it is less known in the United States. Few people in developed countries would question the use of the ubiquitous transcutaneous electrical nerve stimulation (TENS) unit, which emits small amounts of electrical current to manage pain. And magnets embedded in the insoles of shoes, also for pain management, are now a regular item in consumer catalogues. But electricity and magnetism are still primarily used diagnostically—such as with the standard electrocardiogram (EKG or ECG) to assess the health of the heart, and with magnetic resonance imaging (MRI) to show the inside of the body. Most medical professionals, as well as the lay public, are not inclined to take advantage of less familiar electromedical devices because they don't understand how they work. And those who do use the equipment might talk about "frequencies" or "energy" without fully understanding what these terms mean or knowing the science behind the technology.

Fortunately, receptivity to electromedicine is increasing. Health professionals are expanding their practice (and their success rate) with safe, holistic technologies. And the public is beginning to recognize



the dynamics of calcium, potassium, sodium, and other ions transport across cell membranes [sic]. In turn, these can have profound effects on essential enzyme systems that influence ATP [adenosine triphosphate] formation [the source of energy for all cellular activities]. . . . Since both electromagnetic and permanent magnet fields can influence ATP activities, this could explain certain common attributes . . . ¹⁸

Our knowledge of electricity and electromagnetism suggests that more functions may be involved, but this is a good start.

According to some sources, the low or moderate intensity magnets, compared to the highest strength magnets, work better. Often the high strength magnets don't even work at all. This follows the "less is more" principle of biocompatible energies.

Now that we understand the basics of static magnets, let's examine more dynamic equipment that uses magnets for therapeutic purposes.

Oscillating Magnetic Fields: Dr. Henry Lai's Malaria Treatment

Up to 2.7 million people die of malaria every year—one million of whom are children—according to the World Health Organization. In addition to fever, head and joint aches and shivering, malaria often causes seizures and death, if infected blood cells block the blood vessels leading to the brain. *Plasmodium falciparum*, the parasite that causes malaria, has become increasingly resistant to pharmaceuticals. However, bioengineering professor Henry Lai and three University of Washington colleagues have discovered a way to eliminate malaria using very weak, rotating magnetic fields.

Dr. Lai's treatment is simple and elegant. *Plasmodium* becomes weak and dies when exposed to oscillating magnetic fields. While the death throes of the parasite may sound similar to what happens to other microorganisms when exposed to frequencies emitted by rife-style frequency devices, in this case, the magnetic field does not emit variable frequencies.

The principle behind Lai's magnetic device is based on the parasite's unique metabolism. After the person is bitten by the mosquito that carries *Plasmodium*, the parasite first penetrates the liver and then re-enters the bloodstream to feed off the hemoglobin in red blood cells. *Plasmodium* eats the globin portion of the hemoglobin molecule, but it lacks the enzyme needed to break down the iron-containing heme in the hemoglobin. Because free heme molecules can cause membrane damage, *Plasmodium* protects itself by

arranging the heme molecules into long stacks—like "tiny bar magnets." ¹⁹ Lai believes that the oscillating magnetic field affects the parasite in two possible ways. Either the heme molecules cannot form stacks and are free to move in the parasite and cause harm. Or, the stacks spin as a result of the magnetic field and mechanically injure the parasite. Both scenarios cause damage and death to the parasite. Although there is only a minute amount of iron in a heme stack, it is enough to be affected by magnetic fields.

Some experiments show 33% to 70% fewer parasites in exposed than unexposed samples, indicating a significant slowing of the parasite's metabolic functions and thus sufficient to manage the disease. It's unlikely, says Lai, that *Plasmodium* would develop a resistance to magnetic fields. He also believes this treatment will not harm the human host: "It's a very weak magnetic field, just a little stronger than the Earth's. The difference is that it is oscillating." "I think," he adds, "it should be safe for short-term (hours) exposure." ²¹ Other researchers have continued this line of research, such as in the 2018 article, "Growth of Plasmodium falciparum in response to a rotating magnetic field." ²² Results are promising.

Magnetic Vortex: the Magnetex®

Much of the available research in magnetic therapy consists of studies using a single pole of stationary magnets. However, as we have just seen with Dr. Henry Lai's technology, magnetism combined with movement can be extraordinarily powerful. In a 2012 article, "Rotating Magnets Produce a Prompt Analgesia Effect in Rats," the authors stated that while pain relief can be obtained from a static magnetic field, a rotating magnetic field (RMF) produces more immediate and long-lasting results. The "spin-magnetic field generator" that the experimenters designed was basically a disc holding magnetic bars, which was attached to a motor and spun rapidly. The authors suggested further exploration of this and similar equipment to develop "a non-pharmacological approach of anesthesia." ²³

It's unknown if research on RMFs was continued, as it can take several years for an article to be published. However, given the promise of magnet therapy in general, it's not surprising that in 2012, the Magnetex® was developed. The 4-pound hand-held unit derives its power from a magnetic vortex created by four rapidly spinning neodymium magnets. The Magnetex® is reported to do one thing only: pull dangerous, toxic debris from the cells and tissues of the body. This includes biofilms (the dense sticky mass that houses and protects bacteria, fungi and parasites); wastes produced by the body (such as hormones and acids); heavy metals; microbial wastes; and even



However, sometimes the healing effects are impressive (if unexpected), and sound will turn out to be the best delivery system for what's needed.

Ultrasound and infrasound are already used to a limited extent. *Ultra*sound is labeled as frequencies from above 20,000 Hz to a few Gigahertz—a range that's higher than what most human ears can typically perceive, although young people and adults with excellent hearing can actually hear a 20,000-Hz signal. Bats produce very high pitches for *echolocation*, where sound waves bounce off objects in their environment, allowing them to gauge distance and "see" in the dark, even reading their prey's internal structures. Most people are familiar with using ultrasound for diagnostic purposes, such as taking a picture of a fetus in the womb (which, contrary to popular belief, isn't safe, as discussed in Chapter 1). Doctors use ultrasound therapeutically to break apart calcified stones in the body; but unless it's used with care and at very low power, ultrasound can damage the tissues.

The much lower-frequency infrasound is labeled as frequencies lower than 20 Hz, which is typically inaudible to the human ear (especially at frequencies lower than 16Hz). Whales and elephants use infrasound to communicate with one another. The military, imitating what comes naturally to some animals, uses machines to transmit classified data on those low-frequency channels. We also use infrasound equipment to detect volcanic eruptions, thunderstorms, earthquakes and human-made explosions—again, imitating with specialized equipment what animals can do naturally. At a certain strength and frequency, infrasound can cause the human eye to vibrate, leading to distorted vision and optical illusions. Similar low-range frequencies have also been cited as instilling fear and dread in people. Many people feel infrasound in their body, even if they can't consciously hear those low frequencies. A few companies have created lowpower infrasound equipment for the layperson, to relieve pain, reduce inflammation and increase circulation. The equipment is reported to mimic the healing, lowfrequency sound waves (8 to 14 Hz) that are naturally emitted by practitioners of the Chinese art of Qi Gong. However, as such equipment is outside the understanding of allopathic medicine, it's not being widely used.

Despite the abovementioned applications, sound has not been used very much as an electromedical modality. Following are two unique methods of delivering sound to the body in safe, healing ways. The first uses inaudible sound, made audible, to analyze; and then audible sound to correct. The second uses acoustic pressure waves (which happen to be audible) to treat a number of conditions, many of them serious.

VoiceBio™©

We know that every organ, gland, and tissue in the body emits EM radiation, and that this radiation corresponds to tones which we might hear if they were in an audible range. New technologies are based on this knowledge. One is from biologist David Deamer. He decoded and translated some of the vibrational frequencies from portions of DNA into audible tones; and musician Susan Alexjander later added voice and instruments for a CD. Scientists have begun using acoustically translated DNA in a number of novel experiments. In one, the tones emitted by live and dying yeast cells have been recorded and placed on some Internet websites.

From this background comes VoiceBio^{™©}, a unique use of sound, which was first developed in 1995 by naturopath Kae Liu Thompson. VoiceBio^{™©} is a non-invasive way of analyzing the function of organs, glands, and various body systems, based on the tones (EM radiation) they emit. If we could hear the symphony expressed by a living body, we would hear the liver vibrating to the note of G, the heart vibrating to the note of A#, and so on. Thompson discovered that the body's frequencies are reflected in the voice, no matter which octave the person uses when speaking or singing.

In an ideal world, each of the 12 notes of a scale would be represented on a graph of the voice (called a voiceprint). But due to poor diet, trauma, injury, infection, chemical poisoning, or a combination of these, most voiceprints show unequally represented notes that have huge variations beyond the normal, expected, uneven "bell curve." The notes can all be present (thus falling within the range of good health) or be overemphasized, weak, or missing entirely from the voice (thus falling within the range of compromised health). Assessing the heavy, normal, and weak areas of a voiceprint can help pinpoint which body parts or systems are off-balance.

For the VoiceBio^{™©} assessment, the client records a voice sample into a sensitive microphone connected to a small piece of proprietary equipment, a little larger than a cell phone, called *VIBE* (an acronym for Visual Image of Body Energy). Then VIBE sorts, translates, and graphs the tones (ignoring word content) onto a voiceprint that quantifies the frequencies. The graph is displayed on a computer screen connected to the VIBE. VIBE was developed because Thompson found that the sound cards in computers are unreliable, sometimes varying as much as two tones in accuracy. The act of sampling the voice takes under ten minutes.

There are several ways to supply the body with the balancing frequencies. The client can listen, through



MANY APPROACHES, SYNERGISTIC EFFECTS, ALL BIOCOMPATIBLE, ONE GOAL

The body is comprised of EM radiation. It emits EM waves and responds to EM waves. Biological functions correspond to both electromagnetic phenomena and other energies that aren't in the EM spectrum.

Electromedicine covers a vast territory of different energies. The therapies reviewed here—EM radiation, electrical current, oscillating and pulsed magnetic fields, visible monochromatic red light, and FIR (perceived as heat)—are only a few examples. Another example is sound. Although conventional physics does not regard sound as part of the EM spectrum per se, audible sound and compression waves can also be utilized for healing, especially as each tone has a frequency, and every frequency in the EM spectrum would have a corresponding sound if we could hear it.

As we have seen from the small sampling of electromedical approaches and specific equipment, although there's an overlap in their effects, many of them operate differently from each other because they utilize different wavelengths and frequencies on the EM spectrum. Also, some are gentle, while others impact the body more strongly. Some work locally (depending on where they're applied), while others offer a full-body treatment. Some devices can produce Herxheimer reactions more easily than others if they're overused.

One major difference between some of the equipment appears to be their focus: normalization of cell function vs. active devitalization of pathogens. For example, Frequency Specific Microcurrent (FSM) and the basic Avazzia[™] instruments deal with cell function. Rife Therapy is targeted to devitalize particular pathogens, although some frequencies are specific to the revitalization of cells only, without directly affecting the pathogens. The Magnetex[©] clearly causes the release of debris, although it's still unknown whether this debris consists of pathogens, their biofilms, heavy metals, other wastes, or all three. The proper nanometer wavelength of an LED or laser will destroy pathogens as well as normalize tissue. The BEMER® does help with infections, to such an extent that diabetics with gangrenous tissue have avoided surgical amputation due to complete healing of the tissues. However, this tissue restoration is caused by increased microcirculation and not pathogen destruction per se.

On way in which Wave Therapy appears to work is by improving circulation and thus restoring tissue. It may help with the devitalization of pathogens by blasting through biofilms (even though its patent does not state this and these functions are part of its FDA clearance). Because of

these dual functions, great care should be exercised when using this modality. It's reasonable to assume that people suffering from injuries but whose health is otherwise fairly robust, can tolerate more time with the equipment than can those with serious infectious diseases. The likelihood of a Herxheimer reaction means that great care should be taken to ensure that detoxification channels (colon, kidneys, lymph and liver) are functioning well before one begins treatment. Such Wave Therapy subjects should also consider taking the appropriate supplements (discussed in the previous section, **Detoxification Responses**) to help the body mobilize and excrete the toxins that will inevitably be released as a result of the sessions. In fact, these substances are useful to take with any and all therapies that dislodge and discharge toxins from the tissues.

The complementary functions of these modalities gives us good reason to use more than one at the same time. For example, people with Lyme may benefit the most with Wave Therapy and/or the Magnetex[©] (to move toxic materials out of the cells), followed by Rife plasma sessions (to kill any pathogens that have now become accessible in the bloodstream). The Avazzia[™] instruments can target specific injuries (such as a broken rib), and work nicely with LEDs. For pain, the patches from Tuning Element are the simplest to use. For infections, Plasma or PEMF Rife Therapy seems most appropriate, followed by a FIR sauna (which works well for most health issues), and so forth. Of course, EMF protection assists all other modalities, as it does not prevent beneficial frequencies from entering the body. For those who have trouble knowing what to address first, receiving an analysis from a VoiceBio^{™©} practitioner seems prudent (and if desired, the appropriate tones can be used for healing after the analysis has been conducted). The combinations are vast. An experienced and skilled health care provider, or a layperson in touch with his or her body and needs, can use just two modalities to help with a huge variety of issues.

All therapeutic equipment is complemented with EMF protection, such as the jewelry from Eradicator Technologies and Tuning Element, or the VitaSet Generator from Pulsed Technologies. In fact, even those who don't need any remedial machines would be wise to use some form of EMF protection at all times.

It's important to emphasize here that even if results with different modalities are similar or apparently identical, not everyone responds equally to different delivery systems. Also, some people require one delivery system one day and a different one the next. This is why it's valid and proper to have so many different types of electromedical equipment to utilize.





Published Studies in Electromedicine

Don't worry about people stealing an idea. If it's original, you will have to ram it down their throats.

—Howard Aiken, American computer Pioneer and Physicist (1900–1973)

There are thousands of articles in medical and scientific journals on the use of electromagnetic fields, electric fields, electrical current, static magnetic fields, pulsed magnetic fields, frequency-induced diathermy (heat) and more, to treat all kinds of conditions, ranging from bone fractures and muscle sprains to Parkinson's and cancer.

Special mention should be made of treating cancer with hyperthermia: a simple, safe, and effective method. During hyperthermia, most of the body or selected smaller areas are safely subjected to high temperatures. The cancerous tissue is either killed directly by the heat, or it becomes so permeable that only minute amounts of locally injected chemicals are needed to destroy it (thus avoiding the chemical poisoning of the entire system). The clinical use of hyperthermia is not new. It was routinely employed seven thousand years ago in Egypt, and has been used by Western physicians for about 200 years. Yet despite the article "Hyperthermia, still experimental, may win place in cancer therapy"—which appeared in a 1981 issue of the Journal of the American Medical Association few people with cancer today are given the option of receiving heat treatments.

My very small sample lists titles of articles from the most recent back to the 1970s, as well as titles of entire books on electromedical modalities that were published over one hundred years ago. Of the journal articles, I include peer reviewed titles that for the most part are in English. The therapeutic effects of various EM fields is emphasized, as my purpose here is to cite articles examining the *healing potential of electromagnetic therapies that use frequencies in beneficial ranges and amounts.* For literature on the harm of EM fields—such as from cell phone radiation and high tension wires—see Appendix I, "Recent Studies on the Dangers of Harmful Electromagnetic Fields (EMFs)."

The majority of authors write about the practical applications of frequencies to treat disease conditions that include bone breaks, cancer, neurological degeneration, and infections. Other authors discuss how to evaluate or improve the equipment used to disseminate the therapies, while still others address the effects of different frequencies on specific biological functions, such as enzyme and immune cell production. In a few instances, I mention which frequencies were used in the clinical trials. Some are well known to rifers.

Many of the articles describe Rife's technology without using his name or referring to his research or clinical trials. For example, the abstract of a 2009 paper, "Amplitude-modulated electromagnetic fields for the treatment of cancer: Discovery of tumor-specific frequencies and assessment of a novel therapeutic approach," states in part:



1902

W.F. Brady, M.D. et al. A System of Electrotherapeutics, Volume 6: Electrotherapy (Scranton: International Textbook Company, 1902).

Dr. Wilhelm Winternitz (Professor of Clinical Medicine in the University of Vienna; Director of the General Polyclinic in Vienna), assisted by Dr. Alois Strasser (Instructor in Clinical Medicine at the University of Vienna) and Dr. B. Buxbaum (Chief Physician of the Hydrotherapeutic Institute in Vienna) and Dr. E. Heinrich Kisch (Professor in the University of Prague; Physician at Marienbad Spa). Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy, Volume IX. A System of Physiologic Therapeutics: A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Prevention of Disease and in the treatment of the Sick.

S.H. Monell, M.D. X-Ray Methods and Medical Uses of Light, Hot-Air, Vibration and High-Frequency Currents. (New York: E.R. Pelton, 1902)

William Benham Snow, M.D. (Editor). The Journal of Advanced Therapeutics, Volume XXI (A.L. Chatterton & Co., 1902).

[Many medical professionals contributed to Snow's journals, which included information on all types of diseases and their treatment with phototherapy, thermotherapy, hydrotherapy, diet, therapeutic exercise, psychotherapy, and "mechanical vibration therapy." Volume XXI was published in 1902 and Volume XXXI (also available online) was published in 1913, one volume per year. Therefore, we can guess that the first volume of Journal of Advanced Therapeutics was probably published in 1882.]

1886

Elizabeth J. French. A New Path in Electrical Therapeutics (Philadelphia: J.B. Lippincott Company, 1886).

[Also appearing on title page: Electrical Therapeutics: An Account of the Author's Great Discovery of Electrical Cranial Diagnosis, and the Scientific Application of Different Currents of Electricity to the Cure of Disease. A Brief Treatise on Anatomy and Physiology. An Historical Account of the Discoveries in Magnetism and Electricity, the Progress of Medical Science, and Brief Sketches of the Lives of Eminent Practitioners, from the Earliest Ages to the Present Century; Also a Thorough System of Hygiene; to which are Added Plain Directions for the Treatment of Disease by the Author's System of Electrical Applications.]

1883

Dr. Wilhelm Erb, professor in the University of Leipzig; Translated by L. Putzel, M.D. (Neurologist to Randall's Island Hospital, and Physician to the Clinic for Nervous Diseases, Bellevue Out-Door Department, etc.). Handbook of Electro-Therapeutics (New York: William Wood & Company, 1883).

[Contains an extensive chapter outline on many topics: electronics, physiology, physical examination, electrodiagnosis, general electro-therapeutics, diseases, and conditions of the urinary tract, sexual organs, nervous system, muscles, glands, digestive system, and more.

1878

Edwin D. Babbitt. *The Principles of Light and Color* (New York: Babbitt & Co., 1878).

John Butler, M.D., L.R.C.P.E., L.R.C.S.I. Electro-Therapeutics and Electro-Surgery (New York and Philadelphia: Boericke & Tafel, 1878).

1877

Gen. A.J. Pleasonton and Others. The Influence of the Blue Ray of the Sunlight and of the Blue Colour of the Sky, in developing animal and vegetable life: in arresting disease, and in restoring health in acute and chronic disorders to human and domestic animals (Philadelphia: Claxton, Remsen & Haffelfinger, 1877).

Herbert Tibbits, M.D., F.R.C.P.E. How To Use a Galvanic Battery in Medicine and Surgery, 2nd Ed.





Rife Research in the United States

Only a fool of a scientist would dismiss the evidence and reports in front of him and substitute his own beliefs in their place.

—Paul Kurtz, PhD (born 1925)

PROFESSOR, AUTHOR, EDITOR, PUBLISHER, ALSO KNOWN AS THE "FATHER OF SECULAR HUMANISM"

In August 2009, scientific research was begun in Philadelphia, Pennsylvania, that involved the assistance of established (mainstream) medical personnel and actually included the name "Rife" in its title. Anthony G. Holland, PhD, a music professor known for his conducting, composing and performing, had learned of Rife therapy and recognized its value. With the cooperation of inventor-chiropractor James Bare, he made several presentations with a Bare-Rife plasma frequency device and secured the help of several scientists, including the director of a cancer lab who has a PhD in oncology from Johns Hopkins University.

Dr. Holland's background in digital waveform synthesis and analysis, acoustics and physics—along with his interest in health and frequency therapy—made him ideal to organize and supervise the research team. The research, which is ongoing, is called "Plasma Emission Field Treatment," or PEFT. Novobiotronics Inc., a non-profit corporation (www.novobiotronics.com), was formed to fund the studies showing the effects of the Bare-Rife device on cancer cells and pathogens. (The company calls the equipment a "Rife-Bare" device. Like some other rifers, I put Bare's name first because the machine is contemporary and was not designed by Rife.)

The researchers are still collecting data and plan to publish the results of this and future experiments, the identities of all team members, and the frequencies and pulse rates used with the many experimental cell cultures. There is more information to be learned; but so far, the results are very promising. The Bare-Rife machine has proven capable of destroying, *in vitro*, pancreatic, ovarian and leukemia cancer cells, as well as slowing their growth. The earliest experiments on human pancreatic cancer cells caused dramatic changes in cell *morphology*, which is the size and shape of cells. These changes can cause cells to grow at a slower rate than normal (desirable in the case of cancer).

"The cancer cells," Dr. Holland explained in an email correspondence sent July 13, 2011, "are grown in special plastic dishes . . . where they establish themselves and start to grow very rapidly, much the way a cancer tumor grows in the human body. . . . It's very easy for the cancer researchers to simply count how many cancer cells were killed by the new treatment."

Data from the leukemia cell experiment is shown on the next page. This particular test, under the auspices of Dr. Holland, was conducted over the course of four months from 2009–2010, at the Division of Surgical Research of Thomas Jefferson University Medical College, with a special prototype plasma device designed and built by Dr. James Bare. The data shows that certain types of cancer cells can be killed *in vitro* (graph, left) and simultaneously slowed in their growth rate (graph, right). The term "pulsed" in the charts refers to cells that were exposed to the Bare-Rife machine.





At-A-Glance Review of Common Toxic Chemicals

"Growth" and "progress" are among the key words in our national vocabulary. But modern man now carries Strontium 90 in his bones . . . DDT in his fat, asbestos in his lungs. A little more of this "progress" and "growth," and this man will be dead.

—Morris K. "Mo" Udall, PhD (1922-1998)

Professional Basketball Player, Attorney, and State of Arizona Congressmember

The following pages contain an overview of common chemicals we use in our daily lives. Not all of the chemicals produce every single damaging effect that's listed. However, an overall pattern emerges. Most of the chemicals listed are dangerous, and only a few are safe or relatively safe. Carefully read the labels of whatever products you buy or use.

Keep in mind that this is not a comprehensive list, as thousands of new chemicals are created each year. However, this Appendix provides some basic guidelines so you know what to look for when you purchase products ranging from personal care items to carpeting. As more people refuse to purchase products that destroy our health and pollute the environment, manufacturers will seek safer substitutes to comply with the demands of the marketplace.

To keep current with safety information on already existing chemicals and new chemicals that are constantly being manufactured, go to the online database of the Environmental Working Group (which also has a cosmetics section): www.ewg.org. The EWG database grades chemicals according to risk levels—high, medium, or low risk.

Relative risk is an important consideration. If you have a generally useful product that contains mostly safe ingredients and just one or a few synthetic chemicals whose toxicity risks are quite low, it might be worth using it. The EWG database can help you decide.

The data on the following pages were obtained from a number of different sources. Keep yourself informed, as older chemicals are often phased out when new chemicals are created.

FRAGRANCES AND FLAVORS (SYNTHETIC)

Overview

This is a very broad category. The terms "fragrances" and "flavors" are often used together and interchangeably because they're chemically related and frequently come from the same source. Because their ingredients are permitted by the FDA to be defined as trade secrets, companies aren't legally required to list them or divulge the formulas. Fragrances and flavorings are not required to be labeled "artificial" and legally they can be called "natural." You are probably safer if the label is specific (as in "contains real orange oil extract"), rather than general (as in "natural flavors"). However, in some products that are genuinely natural—as we would commonly define the term—the FDA requires the label to include the phrase "natural flavors." Therefore, unless the customer speaks to an honest and knowledgeable representative at a company, it can be difficult to know exactly what's in a product.

At least half of the additives to foods are synthetic flavorings. Even if a label reads "contains natural flavors," the flavors are legally allowed to be adulterated or comprised entirely of synthetic chemicals.

Fragrances and flavors are used in any and all items. Synthetic fragrances can contain up to 5,000 hydrocarbons (derived from petroleum or natural gas) and as many as 200 other ingredients, which instead of being listed separately can simply say "fragrance." After processing, their main component is poisonous alcohol solvent (which can also be burned as fuel).

In Beauty To Die For, Judi Vance cites studies showing that 71% of patients who inhaled a popular perfume had markedly diminished blood flow to the brain. Although the effect was temporary, consider what happens to someone who constantly reapplies perfume with the intent of making the odor linger.

Ethyl acetate is only one example of thousands of flavors/fragrances. In A Consumer's Dictionary of Food Additives, 4th Ed., Ruth Winter reports that even though ethyl acetate occurs naturally in apples, bananas, grape juice, pineapple, raspberries and strawberries, the final synthesized product is so highly processed and concentrated that it irritates and eventually depresses the central nervous system. Ethyl acetate can also cause kidney and liver damage due to prolonged inhalation. Because the chemical acts as a solvent on fats, it causes the skin to dry and crack, which can promote secondary infections.

What follows is just a tiny sample of synthetic fragrances and flavors, as there are far too many to list them all.

The Chemicals

Acetanisole

Acetophenone / Acetyl Benzene / Benzoyl Methide Acetyl Acetone / Acetoacetone / Diacetyl Methane Acetyl Hexamethyl Tetralin

Allyl: Anthranilate, a-Ionone, Butyrate, Caproate, Heptanoate, Hexanoate, Isothiocynate, Mercaptan, Phenylacetate, Phenoxyacetate, Propionate, Sorbate, Sulfide, Tiglate, 10-Undecenoate**

Allyl Cyclohexane: Acetate, Butyrate, Propionate Amyl: Acetate, Butyrate, Formate, Hexanoate, Octanoate, Propionate, 2-Furoate [also look for these words with numbers]**

a-Amylcinnamaldehyde [anything]

a-Amylcinnamyl: Acetate, Alcohol, Formate, Isovalerate Anisole

Anisyl Acetate, and Anisyl Alcohol, Butyrate or Formate Anthranilic Acid / Methyl Ester / Cinnamyl Ester Aspartame (see Chapter 1)

Benzaldehyde and Benzaldehyde: Dimethyl, Acetal, Propylene Glycol Acetal, Glyceryl Acetal

Benzyl Butyrate

Butyl Stearate and Butyl Ether

Diethyl: Aspartate, Acetaldehyde, Malonate, Sebacate, Succinate, Tartrate

Dihydro Carveol

Dihydro Coumarin

Ethyl: Acetate, Acetoacetate, Acetone, Acrylate, Anthranilate, Benzoate, Caproate, Decanoate, Glutamate, Hexanoate, Lactate, Maltol, Methylphenylglycidate, Myristate, Nitrite, Oleate Methyl propyl ketone (MPK) / 2-Pentanone Monosodium Glutamate (in Hydrolyzed Soy, Vegetable/ Yeast Proteins/Extract, Sodium Caseinate; see Chapter 3)

Nonanal/Pelargonic Aldehyde

Formate

Phenyl [with a number]

Phenylacetaldehyde [anything]

Phenylpropyl [with a number and usually another word] Piperonal (Heliotropin)

Piperonyl Acetate, Aldehyde, Butoxide, Isobutyrate Pyruvaldehyde/Acetyl Formaldehyde/Acetyl Formic Acid Saccharin++

** "Allyl" means "derived from allyl alcohol." Not everything with "allyl" is poisonous. The herb tarragon contains a naturally-occurring compound p-allyl anisole.

++Saccharin, used to sweeten toothpaste and foods, is a recognized carcinogen.



Safe Substitutes for Common Toxic Chemicals

Not all chemicals are bad. Without chemicals such as hydrogen and oxygen, for example, there would be no way to make water, a vital ingredient in beer.

—Dave Barry (born 1947)

Pulitzer Prize-winning American author and humorist

BETTER LIVING THROUGH CHEMISTRY?

"Better living through chemistry" is a long-lived variation of an advertising slogan that DuPont, the chemicals manufacturer, promoted from the 1930s to the 1980s. It persuaded consumers to discard safe, effective natural ingredients and replace them with synthetic garbage.

Each week, thousands of new chemicals are manufactured that—incredible as it sounds—aren't tested for safety. In our everyday lives, we are constantly exposed to pesticides, fertilizers, and volatile organic compounds (VOCs, among which are formaldehyde, toluene, benzene, and styrene). VOCs are found in antifreeze, carpet, disinfectant, laundry detergent, polishes and varnish, shampoo, and even packaged foods. Toxic heavy metals (such as cadmium, lead, mercury and unbound, non-nutritional zinc) are in cleaners, cosmetics, paints and solvents. Detergents, heavy metals and solvents are in cleaners, soaps and personal care products. Acetone, benzene, ethylbenzene, formaldehyde, phthalate, styrene, toluene, xylene and heavy metals are in carpets. Most clothing, unless specified otherwise, is treated with fire retardant and fabric softener. Deodorizers and mothballs are made from dangerous petrochemicals. Fertilizers also contain petrochemicals. Pesticides, insecticides, fumigants, and fungicides are registered poisons with the United States government. They are sprayed onto our crops and are embedded in cooking utensils and children's toys. (For an extensive list, see Appendix F, "Dangerous Chemicals, Contaminants and Toxins.")

People in industrialized countries, including North America, have been brainwashed to not only accept, but *demand*, the presence of dangerous chemicals in their daily lives. Harmful chemicals are around us everywhere we look and in some places that we cannot imagine: in the home and workplace, in schools and hospitals, in restaurants and gyms, in recreation areas and landfills. Sadly, these chemical contaminants pollute the environment while impairing the health—and in many cases, causing the death—of humans, animals, and plants.

Most of us cannot control or eliminate all of the dangerous chemicals used by industry. However, we *can* control what's in our homes. We are told that every item in our home requires a different cleaning product. But cleaners contain the same basic ingredients: a solvent (to cut grease), and color and fragrance to presumably make the product more appealing. It's time to stop making chemical manufacturers rich while we kill ourselves. Let's simplify our lives by throwing out toxic cleaners and pest control substances that are taking up space. Instead of poisons, we can use the safe, effective, simple ingredients listed on the following pages.



18. Pest Control (Insects, Rodents, and Other Garden Pests)

- Essential Oils (EOs): Cedar(wood). Citronella. Eucalyptus. Lemon. Lemongrass. Neem. Pennyroyal. Peppermint. Rue. Rosemary. Wintergreen. Personal repellant for flying and crawling insects, including aphids, fleas, mosquitoes, and ticks. Mix 10 drops of each in about 4 oz. of water and spray it on skin. Or, apply undiluted EOs on countertops or wherever bugs walk.
- Cinnamon and Clove Essential Oils. Work well for ants and gnats. Apply undiluted to affected areas. For ants, mix equal parts of vinegar and water in spray bottle, add essential oil(s) and spray. You can also use cinnamon sticks and whole cloves.
- Clove Essential Oil. For rats and mice as well as gnats. Apply undiluted if possible.
- ◆ Coffee Grounds. For killing slugs, mix into soil. You can also spray a dilute solution of coffee onto the leaves of the plants.
- KD Gold™. Use suggested dilution. Can be sprayed directly on plants and surrounding dirt to remove contaminants and unwanted garden pests, including bugs, but will not kill beneficial insects such as ladybugs. Plants, able to absorb nutrients more efficiently, grow bigger and faster.
- Diatomaceous Earth. Spread liberally on the ground outside against the walls of your home. Get food grade (not pool grade), so it's safe for pets in case they ingest it. Don't inhale it.
- ◆ Borax. Use in ways similar to diatomaceous earth.

19. Purification of Swimming Pools, Hot Tubs, Jacuzzis, etc.

Silver and Copper Ion Bars. Sometimes they also contain zinc. The bars are usually passive, with ions naturally seeping into the water, which is cleaned. The ions can also be delivered via electricity (which provides more control of how many ions are flowing into the water, and the rate at which they are seeping into the water). Ozone is another great option (see Chapter 3), though more expensive.

20. Removing Skunk Odor from a Dog (and odors from other things as well)

A tomato juice bath (a common folk remedy) removes only some of the odor. This effective recipe, developed by materials engineer Paul Krebaum from Lisle, Ohio, removes oily sulfur compounds by oxidizing (adding oxygen to) them. Mix the ingredients below in a large open container; they foam profusely and could explode if they're inside a closed container. Rub the solution into the animal's fur, avoiding the eyes (the formula's safe, but will sting). When you no longer smell the skunk odor, rinse. If odor persists (as it might if it's from an old skunk attack), leave solution on longer, or apply twice.

- Hydrogen Peroxide, 3%, 1 quart.
- ♦ Baking Soda (Bicarbonate of Soda or Sodium Bicarbonate), ¼ cup.
- KD Gold[™], 1 to 2 teaspoons (diluted 10:1).

21. Weed Control (Safe Herbicides)

Weed control can be difficult, so it's tempting to use poisons. However, the harm to all living things from poison is almost incalculable, so it's worth using natural methods.

- Boiling Water. Plain boiling hot water poured directly on top of the weeds will kill some or all.
- Distilled White Vinegar. Poured directly on top of the weeds, the vinegar will kill some or all.
- ◆ Propane Torch / Flamer / Weed Flamer / Weed Torcher. Portable, lightweight, long rod fueled by propane kills weeds if you're willing to do the labor. Passing a flame over a weed for only one-tenth of a second kills it. The weed will change from a glossy to a matte finish. It may not droop immediately, but will wilt and die within a few hours. A perennial weed will send up new shoots within a week, but additional treatments will deplete the stored energy in the roots and the weed will eventually die. Watering the soil a bit beforehand will conduct heat and kill some of the seedlings in the soil. Flamers are especially efficient for smaller areas (as compared to farmland or large-acre plots). Burning a younger plant is also more efficient than burning a more mature plant.





Create a Detox Footbath for Ten Dollars

Be sure you put your feet in the right place, then stand firm.

—ABRAHAM LINCOLN, 16TH PRESIDENT OF THE UNITED STATES (1809–1865)

History and Theory of How This Works

The detoxification footbath was developed circa 1900 in London. It consisted of two tanks, each containing water and an electrode, into which a foot was placed. Very mild current passed through the body, allowing metals and other substances to be drawn out of the body via osmosis.

Modern commercial footbaths contain a single chamber that accommodates both feet and both (positively and negatively charged) electrodes. The water tends to become a bit darker during the soak. Aficionados report feeling better, citing the change in water color as proof that the footbath works. Detractors point out that the tint of the water changes after the electrodes are turned on, without anyone ever placing their feet in the chamber!

The detractors are correct. Changes in water color are due to rust or other metallic accumulations on the iron electrodes. These gadgets are outrageously overpriced (some at over two thousand dollars), accompanied by marketing hype to justify the cost. Nevertheless, the basic premise is sound—drawing toxins from the body via a non-invasive electrical charge—as long as there are two separate tubs for the feet and one electrode is in each tub. Most toxins have a positive charge. Positively-charged toxins are attracted to a negatively-charged electrode. In the following setup, users find that if the water does change color, it's the negatively-charged side that becomes discolored while the positively-charged side does not.

Supplies

You can make your own effective apparatus for about ten dollars with simple parts bought from a basic electronics store or hardware store.

- ♦ Two shallow plastic bins the size of shoeboxes, each large enough to hold a single foot. Make sure they are plastic and not metal. (The 9-volt battery you'll use isn't strong, but it still might cause an unpleasant jolt if you use a metal pan rather than plastic.)
- Filtered or distilled water.
- Celtic, sea, Dead Sea, or Epsom salt.
- Two stainless steel spoons, bent in a certain way (see photo, next page).
- One 9-volt battery.
- ◆ Two "alligator" clips of different colors. One wire will connect to the positive side of the battery, and the other wire will connect to the negative side of the battery (see photo, next page). In the United States it's customary to use black and red, but any two colors can be used as long as you dedicate one alligator clip to the POSITIVE side of the battery and the LEFT foot, and the other alligator clip to the NEGATIVE side of the battery and the RIGHT foot. For this discussion, I will use the colors red and black.





Recent Studies on the Dangers of Harmful Electromagnetic Fields (EMF)

Technology can be our best friend, and technology can also be the biggest party pooper of our lives. It interrupts our own story, interrupts our ability to have a thought or a daydream, to imagine something wonderful, because we're too busy bridging the walk from the cafeteria back to the office on the cell phone.

—Steven Spielberg, Film Director (Born December 18, 1947)

Electromagnetic (EM) fields surround us all the time. The natural diffuse EM radiation emitted by the sun is very different from the human-made, concentrated, EM radiation from cell phones, TV and radio transmitters, computers, WiFi, tablets, smart meters, microwave ovens, kitchen appliances, vacuum cleaners, air conditioners, airport scanners, and anything with an engine (to name just a few items in our technological age). These electronics break the chemical bonds in our DNA, leading to almost unlimited malfunctions in all systems: immune, nervous, hormones, respiratory, circulatory, digestive. There's no part of the body that doesn't react negatively to these harmful electromagnetic fields, which are sometimes referred to as *EMFs*, *electrosmog*, or *electropollution*.

Despite copious documentation showing the damage caused by electropollution, many governments, their agencies, and the telecommunications industry deny that harm exists. Corporate media typically lies, insisting that there's nothing to worry about and implying that anyone who's concerned is being paranoid, irrational, and idiotic. However, at the University of Washington, Dr. Henry Lai's data on radio frequency studies shows a

very different story. In the studies that are *not* funded by the telecommunications industry, 70% clearly indicate the harm of WiFi (with 30% showing "no effect"); while in the studies that are funded by the telecommunications industry, only 32% show harm (with the "no effect" category spiking to 68%). In June 2015, investigative journalist Norm Alster at the Harvard University Center for Ethics issued a paper called "Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates." And some readers might be surprised to learn that as long ago as 1971, the United States Navy commissioned a compilation of over two thousand studies on the effects of microwaves and radio frequencies on living systems. Even then, there was grave concern about how various human-made EM fields could (and did) negatively affect humans and animals.

Here is a very small sample of studies on the dangers of electrosmog. New research is constantly being published (despite the resistance of those who'd like to conceal it), so keep current. In the meantime, see Chapter 1 for more details on how and why EMF is harmful, and be sure to use EMF protection (see Appendices A and C).

"Alterations of the circadian melatonin rhythm by the electromagnetic spectrum: a study in environmental toxicology." Reiter RJ. *Regulatory Toxicology and Pharmacology*, June 1992; 15(3):226–244.

1991

"Electromagnetic field exposure and amyotrophic lateral sclerosis." [letter to the editor] Davanipour Z, Sobel E, Vu H, Will AD. *Neuroepidemiology* 1991;10:308.

1990

Cyril W. Smith and Simon Best. *Electromagnetic Man: Health and Hazard in the Electrical Environment* (London: J.M. Dent and Sons Ltd, 1990). **Book**

1989

Brodeur, Paul. Currents of Death (New York: Simon and Schuster, 1989). Book

"Case-control study of childhood cancer and exposure to 60-Hz magnetic fields." Savitz DA, Wachtel H, Barnes FA, John EM, Tvrdik JG. American Journal of Epidemiology; 128(1):21–38.

1988

"Overhead high-voltage cables and recurrent headache and depressions." Dowson DI, Lewith GT, Campbell M, Mullee MA, Brewster LA. *Practitioner*, April 22, 1988; 232(1447):435–436.

1987

"Some Effects of Electric Fields on Living Creatures." Watson DB and Neale, IA. *International Journal of Electrical Engineering Education*, July 1, 1987.

[The authors are testing a 50-Hz field, which is used in the electrical wiring of Europe and other continents. They also refer to the 60-Hz field used in North America.]

"Electrical Sensitivities in Allergy Patients." Choy RYS, Monro JA, Smith CW. *Clinical Ecology* 1987, Volume IV, Number 3, 93–102.

"The effect of environmental EMF on the health of juveniles and children and its protection." Jiang H. *Zhonghua Yu Fang Yi Xue Za Zhi* [Journal of Preventive Chinese Medicine], July 1987;21(4):205–208. [in Chinese]

"Effects of long-term exposure to a 400-kV, 50-Hz transmission line on estrous and fertility in cows." Algers B, Hultgren J. *Preventive Veterinary Medicine* 1987; 5 (1): 21–36.

1985

"Occupational exposure to electromagnetic fields and the occurrence of brain tumors. An analysis of possible associations." Lin RS, Dischinger PC, Conde J, Farrell KP. Journal of Occupational Medicine, June 1985; 27(6):413–419. [From Abstract: "An epidemiologic study was conducted using data from the death certificates of 951 adult white male Maryland residents who died of brain tumor during the period 1969 through 1982. Compared with the controls, men employed in electricity-related occupations, such as electrician, electric or electronic engineer, and utility company serviceman, were found to experience a significantly higher proportion of primary brain tumors. An increase in the odds ratio for brain tumor was found to be positively related to electromagnetic (EM) field exposure levels. Furthermore, the mean age at death was found to be significantly younger among cases in the presumed high EM-exposure group."]

1983

"Incidence of cancer in the electronics industry: using the new Swedish Cancer Environment Registry as a screening instrument." Vågerö D, Olin R. *British Journal of Industrial Medicine*, May 1983; 40(2):188–192.

1979

"Relation between suicide and the electromagnetic field of overhead power lines." Reichmanis M, Perry FS, Marino AA, Becker RO. *Physiological Chemistry and Physics*, 1979; 11(5):395–403.

[The entire Abstract: "Laboratory studies have shown that electromagnetic fields similar to those from high-voltage transmission lines can produce biological effects. Surveys of the actual effects of such lines on exposed individuals usually have been hampered by complicating factors tending to blur the data. By means of a new approach, however, correlation has been established between the presence of transmission-line fields and the occurrence of suicides in part of the Midlands of England."

1971

"Bibliography of Reported Biological Phenomena ('Effects') and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation." Zorach R. Glaser, PhD, LT, MSC, USNR. Research Report Project MF12.524.015-0004B [on this typewritten copy, the "B" is unclear], Report No. 2. Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland 20014, U.S.A., 4 October 1971. Second Printing, with Revisions, Corrections, and Aditions: 20 April 1972 (Supersedes AD No. 734391).