Drug-Nutrient Interactions

Leo Galland, M.D., Discusses His New Database

Julia Schopick

Introduction

Leo Galland, M.D., is a pioneer in the field of integrative medicine. A renowned "medical detective" and board-certified internist, he has successfully cured many patients whose illnesses had defied prior diagnosis and treatment. Dr. Galland is a Fellow of the American College of Physicians and the American College of Nutrition and an Honorary Professor of the International College of Nutrition. He is also the author of more than 30 scientific articles and textbook chapters, and two highly acclaimed popular books (see box entitled Publications on Patient-Centered Care by Dr. Leo Galland).

Dr. Galland did his undergraduate work at Harvard University, Cambridge, Massachusetts, and received his training in internal medicine at New York University's Bellevue Medical Center, New York City. In his private practice, in New York City, he specializes in treating patients with undiagnosed and difficult-to-treat illnesses and conditions.

Dr. Galland is committed to educating physicians and other health professionals about the scientific application of nutrition to clinical practice. His most recent achievement in this area is his development of a database for doctors, the Drug–Nutrient Workshop, which is discussed in this interview.

The Interview

Julia Schopick: How long have you been an integrative practitioner?

Leo Galland: For approximately 25 years, I have worked with patients using an integrative model of diagnosis and treatment. Most of my patients come to me with complex conditions that have not responded well to the treatments they have undergone. In the early 1980s, most of my patients had been to many conventional practitioners but, over the years, I have seen more and more patients who have been to many alternative practitioners too.

JS: What made you turn to alternative medicine?

LG: I trained in internal medicine and taught and practiced general internal medicine for many years. I didn't get involved in alternative medicine because of any political or cultural bent but, rather, perfectionist that I am, I found that I was becoming more and more dissatisfied with the results I was achieving with conventional medicine. So I decided to look for therapies I could integrate into my practice that would give me better results. I began by doing nutritional assessments, which helped my patients make dietary changes and environmental assessments to determine the toxins and allergens that were affecting these patients. On the behavioral front, I began recommending exercise, stress management, and relaxation training.

I was really blown away by the superiority of the results I was getting, using an integrative approach. I discovered that the more conventional specialists patients had been to, the better my results were. In analyzing why this was so, I decided it was because I was asking diagnostic questions in a different way. When a patient had already been to a conventional specialist, it was easier for me because all the ordinary diagnostic questions had already been asked by the other physician, so I could ask the questions that related to what I came to call patient-centered (or person-centered) diagnosis. I began lecturing about this approach to diagnosis at professional symposia and described it in detail in my book, *Power Healing* (see box entitled Publications on Patient-Centered Care by Dr. Leo Galland).

JS: Please describe patient-centered diagnosis.

LG: It is an approach wherein I try to diagnose the patient, in addition to the disease. In conventional medicine, the primary question asked by the doctor is: "What disease does a person have?" In ancestral and alternative health traditions, the question is: "What are the disharmonies and imbalances that underlie what is happening?"

To effectively diagnose and then properly treat patients, a doctor must know about their diets, environments, lifestyles, exercises, beliefs, social milieus in which they live—and, of course, everything they put into their mouths, including foods, medications, and supplements. Most doctors don't know these things about their patients.

Conventional doctors often don't ask their patients the important questions about diet, or exercise, or the degree of functional disability a patient experiences as a result of his or her illness. They just don't ask. Many don't even ask their patients with serious digestive disorders about their diets. Often, they treat these patients by suppressing the inflammation with drugs without trying to understand those factors that act as triggers or modulators of the inflammatory response. I have seen this happen with illness after illness. The results are simply not as good as they are with the patient-centered, more integrative approach.

JS: Why did you decide to create your database?

LG: I found that it takes a tremendous amount of time and knowledge for a doctor to conduct effective patient-centered diagnosis and treatment. I realized that, while most doctors really do care about their patients, many don't feel that they have the time (or the necessary research information at their fingertips) to take a patient-centered approach. So, 5 years ago, I started working on the concept of developing software that would help practitioners complete this process of patient-centered diagnosis.

My computer-based database system makes it easy for doctors to do this patient-centered assessment because the patient enters information about his or her diet, lifestyle, supplements, and medications directly into a computer. The computer program formats this information in such a way that it is presented to the doctor succinctly and clearly in the form of a report in doctor-friendly language.

JS: The first module you're introducing is the drug–supplement interaction module (The Drug–Nutrient Workshop, www.NutritionWorkshop.com). What do you think doctors will find most exciting about it?

LG: I spent over 1000 hours creating this module, which is now available to practitioners. It contains a database, which includes almost 900 different drugs and fixed-drug combinations, cross-referenced by generic and brand names, and almost 600 nutritional and herbal supplements. There are more than 2000 documented interactions. Over 400 drugs and supplements deplete specific nutrients or increase dietary nutrient requirements. For over 500 drugs and supplements, therapeutic efficacy and risk of toxicity are influenced by food or dietary components. Several hundred hazardous and several hundred beneficial drug–supplement interactions have also been identified.

At a glance, doctors will be able to see not only all the drugs and supplements a particular patient is taking but also all the potentially positive and negative interactions among them: how each drug or supplement affects the patient's nutritional status and what other supplements the patient might take to potentiate the supplements and medications he or she is already taking.

The exciting part for the doctor is that he or she doesn't have to do the medical research. I have done it for them. But, if they want to do extra research, I have made my research readily available.

I am very proud of the nature and extent of this database. I worked hard putting it together: I carefully reviewed every study and tried hard to distill the essence of what I thought was really important for health professionals to know about. Complex articles and concepts were distilled down to single sentences, complete with footnotes and references, so that the practitioner can easily locate the actual study. And this information is documented well enough so that if someone calls you on the carpet—if you have to face a regulatory body—there is enough information here for you to support your choices.

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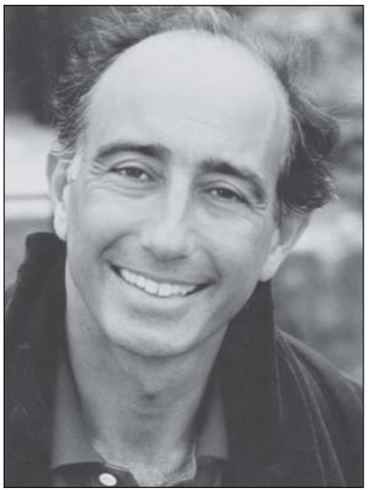


Leo Galland, M.D., private practice, New York City.

JS: More specifically, what information does this program actually give the practitioner?

LG: In addition to giving the practitioner a snapshot of the medications and supplements a particular patient is taking, and how they interact with one another, the program breaks the information down further into six categories. The first five of these categories deal only with the drugs and supplements a particular patient is actually taking:

(1) Potentially negative drug–supplement interactions. If your patient is taking this drug, he or she should probably not be taking this supplement. These recommendations are based upon fairly strong clinical or experimental data.
(2) Beneficial drug–supplement interactions. If your patient is taking this drug, and is also taking this supplement, that's good. Again, this field is only for the drugs and supplements the patient is taking.
(3) Potential drug effects on nutritional status. This category includes descriptions of how a certain drug the patient is taking depletes certain nutrients.
(4) Possible drug–supplement interactions. This involves interactions that have not been documented in any clinical or animal studies but which could occur because of the pharmacologic effect of the supplements. For example, there are 35 supplements that people use that inhibit platelet aggregation when taken by mouth (many more do so only in a test tube or after intravenous injection). Potentially, these could interact with each other or with anticoagulant or antiplatelet drugs to increase the antiplatelet effect. No one has studied what happens in people but if a patient is taking more than one of these substances, the doctor should know about it.
(5) Drug warnings/food interactions. This involves food interactions of drugs and supplements. (These are mostly drugs but there are some supplements that interact with food compo-

nents also.) For the most part, this gives the practitioner information about the effects of foods on drug absorption, metabolism, and excretion. But, to some extent, it also describes the roles of drugs in food intolerance.

(6) Supplements that might enhance the patient's present treatment. This field looks at the drugs and supplements the patient is already taking and recommends other supplements that have been shown in studies to enhance the present treatment.

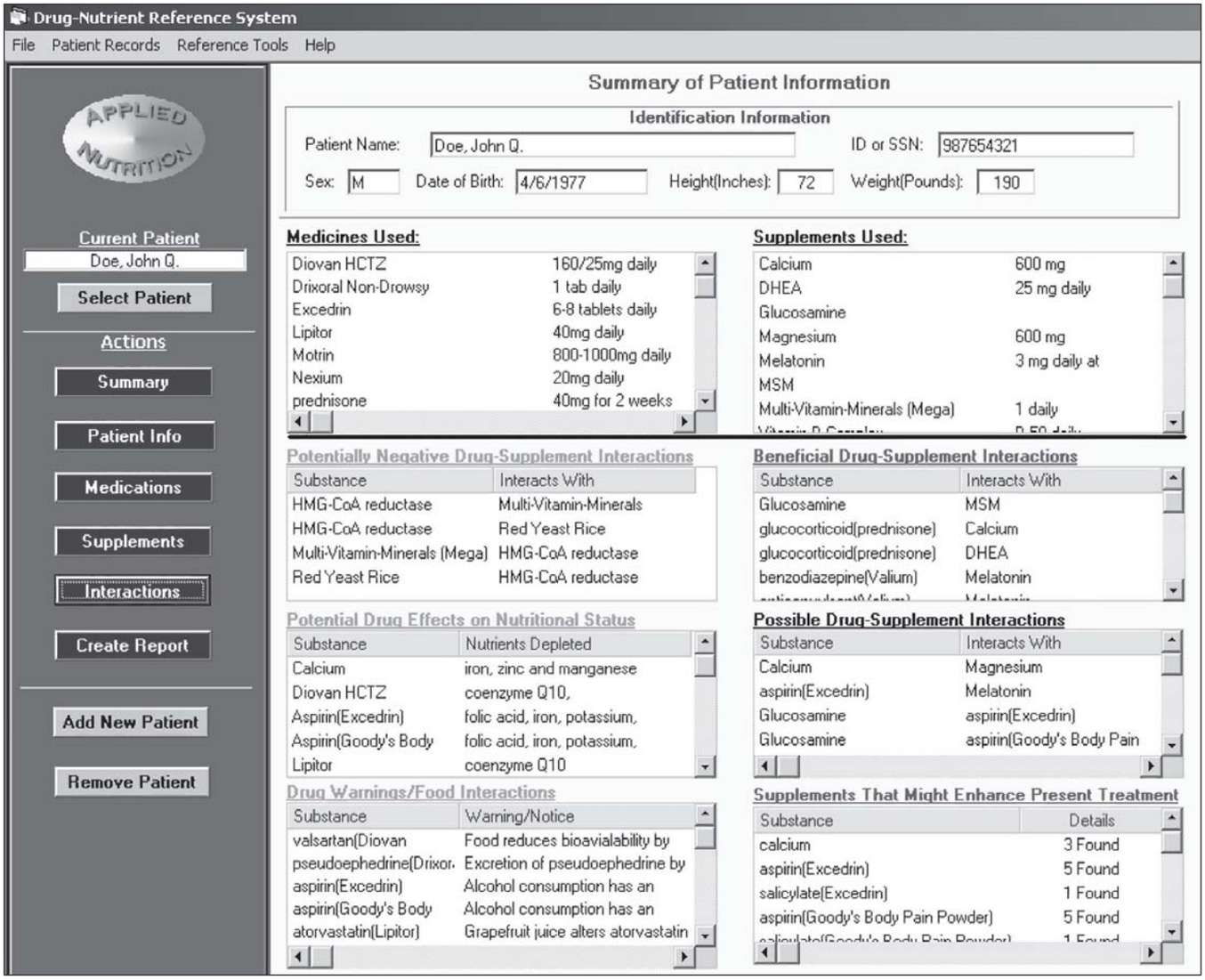
JS: What do you think the conventional community will find most surprising about this module?

LG: One thing that really excites me (and I am sure it will excite the public as well), and made me know this should come out as a stand-alone item to begin with, is that I found that there were as many documented *positive* influences that supplements have on drugs as there were *negative* interactions. Unfortunately, the negative interactions are getting all the publicity. There's been all this politically motivated adverse publicity about negative drug–supplement interaction and no attention at all is being paid to the positive aspects. And when they do publicize the negative interactions, the inference is usually that the patient should stop taking the supplement. I hope that, once doctors start using this database, they will realize that this approach is potentially harmful to their patients.

So, last summer I was getting so enthralled by the process of uncovering all this documentation of the benefits of supplements on medications, that I decided we have to get this module out there first.

JS: Please share some examples of the benefits of supplements on medications.

LG: There are 21 different supplements that have been shown, either in animal studies or in clinical trials with humans, to positively support cancer chemotherapy, either by



Opening screen in Drug–Nutrient Workshop database. Reproduced with permission from Leo Galland, M.D.

decreasing the side-effects or improving the outcomes. But most doctors don't know this.*

All you hear about is that patients shouldn't take antioxidants if they're getting chemo. But that's wrong. There is no evidence to support that position. But that's what's out there. Some very caring doctors are getting themselves into very weird intellectual territory simply because they don't know about this more positive research. For instance, one famous breast cancer specialist recently gave a lecture in which he said, if patients have breast cancer they should not take immune-boosting supplements, because they may promote breast cancer. As "proof" of this, he said that women with AIDS don't get breast cancer! And at one of the top cancer hospitals, they are claiming that vitamin C is estrogenic. There are no data to support either of these positions.

Another example: A patient being treated for cancer with cisplatin and adriamycin may experience lots of side-effects. The database reveals that there are many supplements that would be helpful in terms of decreasing the drugs' toxicity and/or increasing their effectiveness. Also, vitamin B_6 and glutamine are helpful with peripheral neuropathies induced by antineoplastic drugs, and coenzyme Q10 and L-carnitine are helpful in preventing adriamycin cardiotoxicity. These are examples of the helpful information that doctors can find in the database.

The problem is that people don't know about these positive "side-effects"—because their doctors don't know about them. They are not publicized in the media. But they're all in the literature, and I have included this information in my database. There are also 15 supplements that improve insulin sensitivity. For instance, L-carnitine and vitamin D both improve insulin sensitivity. And Pycnogenol®† has positive effects on blood sugar. These are important pieces of information for doctors and patients dealing with diabetes. And it's all in the database.

These kinds of findings got me very excited, because I feel confident that this information will help more practitioners to practice a new, more integrative and patient-centered kind of medicine.

JS: What kinds of doctors do you think will want to use this database?

LG: I would like to see both conventional and integrative doctors use it. I see it as a bridge for conventional doctors using drug therapies to start using nutritional therapies as well. For integrative and holistic practitioners, the amount of information that is here is huge. Holistic doctors don't know enough about drugs. They often want to get their patients off all drugs when, if they knew more about some of them, they might not do that. But they would learn how to use supplements to make their patients' drugs more effective so that the doses might be lowered.

Coming Soon. . .The Food Module

Although not available at the time this article was being written, the Food Module of the Nutrient Workshop Database is expected to be available to practitioners soon. This module will provide practitioners with both qualitative and quantitative analyses of their patients' dietary intakes, including a breakdown of estimated nutrients in the diet, caloric expenditure, and dietary habits and attitudes.

These analyses will be based on two sets of information: (1) the patient's answers to a questionnaire compact disc that he or she can use at home and (2) a database of almost 9000 food items with complete nutrient breakdowns as detailed by the latest National Institutes of Health (NIH) studies, and developed at the NIH for studying the relationship between diet and cancer.

Data covered by this module will include: the diversity of foods eaten; the number and quality of the fruits and vegetables consumed; the number of servings of fish eaten weekly (specifically, the types of fish that provide beneficial omega-3 fatty acids or that are likely to be contaminated with mercury); and the propensity of the patients' dietary choices to influence systemic markers of inflammation, such as high-sensitivity C-reactive protein.

JS: Can you give us an actual example of how your database can be used to help a patient?

LG: This is a very recent example. A colleague of mine received a call from his son at college, who was receiving high doses of amoxicillin for tonsillitis and was taking lots of probiotics to prevent diarrhea. Despite the probiotics, he had frequent bowel movements and, because of the tonsillitis, was not eating very much. Although his tonsillitis was getting better and his fever was gone, the young man was getting weaker and weaker and had an important exam the next day.

Looking at the database, which he was beta testing, my friend discovered that high-dose amoxicillin causes increased potassium excretion by the kidneys (a specific effect of penicillin derivatives not shared by other antibiotics). He figured that the combination of potassium wasting through the kidneys combined with mild diarrhea and poor intake of food could cause potassium deficiency, even in an otherwise healthy young man. So he had his son take 1000 mg of potassium by mouth with each amoxicillin pill. Within 20 minutes of the first dose, his son was markedly less fatigued and was fine by the next morning for his exam.

JS: What will your database ultimately include?

LG: In the course of working on this project, my software expert, Wes Meador, and I decided we really had to bring this database out in modules. The job was just too big to do it all at once. So, the drug–supplement interaction database, which is just now being marketed to practitioners, is the first module. The module we actually started working on first, the nutritional analysis module, will be a complete analysis of 9000 foods. We hope to have it out during the spring. With this module, the patient enters data about the frequency with which he or she eats certain foods. To create this, we used a database that was developed at the National Institutes of Health for looking at the relationship between diet and cancer.

**EDITOR'S NOTE*: See the article by Shari Lieberman, Ph.D., C.N.S., F.A.C.N., on cancer and intravenous vitamin C in this issue.

†French maritime pine bark, Horphag, Research Management SA, Geneva, Switzerland.

Patient-Centered Care by Dr. Leo Galland

Textbook chapter

"A New Definition of Patient-Centered Medicine"
Integrative Medicine: Principles for Practice
Edited by Ben Kligler, M.D., and Roberta Lee, M.D.
New York: McGraw Hill, 2004

Books for your patients

Power Healing: Use the New Integrated Medicine to Cure Yourself
(first published as *The Four Pillars of Healing*)
Random House, New York, 1997

Superimmunity for Kids: What to Feed Your Children to Keep Them Healthy Now, and Prevent Disease in Their Future
New York: Dell Publishing, 1989

What we are doing with the nutritional analysis module is to create an analysis, which is presented not only as a quantitative breakdown of estimated nutrients in the diet, but also an assessment of the diet's quality, using parameters like the number of fruits and vegetables and the quality of fruits and vegetables eaten in a day. In the course of developing the food database, I realized that we had to incorporate drugs and supplements and so I started working on the drug–supplement interaction software. □

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