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THE NUTRI-SPEC LETTER

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From:
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Dear Doctor,

IMMUNO-SYNBIOTIC will have a life-changing impact on your most severely ill patients. It will also significantly improve the health of all your patients, as well as your health and that of your family. The scientific literature shows that without question there are 3 prebiotics and 2 probiotics that stand far above the rest in reducing ImmunoNeuroEndocrine stress. As you prepare to learn the beneficial effects of these 5 ingredients of your IMMUNO-SYNBIOTIC, you will first need to recognize that the 5 ingredients do not include …

LACTOBACILLUS ACIDOPHILUS.

For more than 3 decades, I have been telling my patients to quit eating yogurt (and chiding doctors foolish enough to believe the health food industry propaganda about yogurt). I tell my patients if they want a sugar-laden dairy dessert they are better off eating ice cream than yogurt --- at least the ice cream will give them a little saturated fat to partly balance the gooey gobs of sugar it contains. The health food industry propaganda is so effective that no one wants to believe their sugary "health food" is more harmful than ice cream.

"OK!" --- My patients exclaim in their frustration over my harassment --- "I'll switch to unsweetened yogurt so I can at least get the Lactobacillus acidophilus."

"Sorry," I reply, "But you will not be getting any acidophilus bacteria from your yogurt. It is virtually all dead long before you get it to your kitchen. All you will get is the excrement those little critters left behind --- a belly full of lactic acid."

For nearly 25 years I have been telling all my patients (and any NUTRI-SPEC doctors who will listen) to quit supplementing with Lactobacillus acidophilus. The little bit of good that L. acidophilus does, is done far better by other probiotics, and there is significant harm for many patients in taking it. In last month's Letter, I made the first "official" (better 25 years late than never) condemnation of L. acidophilus. ----- Wow! ----- After just a few days of our recent NUTRI-SPEC Letter hitting the mailboxes of NUTRI-SPEC practitioners, we were inundated with disparaging remarks from doctors outraged by our stance against Lactobacillus acidophilus. We stir up this kind of uproar every time we slaughter a health food industry sacred cow.

How did L. acidophilus gain icon status among health food store devotees and alternative healthcare practitioners alike? Its success story is easy to understand. Back in the 70s and early 80s, L. acidophilus was the first probiotic easy and inexpensive to produce commercially, and, it yielded some of the benefits its proponents were seeking. L. acidophilus was there in the infancy of our understanding the importance of the intestinal environment to good health.

It was not long before the inadequacies of L. acidophilus became apparent, but by that time the bandwagon was rolling at high speed, as health food nuts were gobbling up yogurt by the truckload, and every supplement peddler had an acidophilus product on the market. For patients with a rotten gut, and particularly for patients who had been on antibiotics, acidophilus, at least short-term, yielded a positive benefit to cost ratio. In other words, it was better than nothing, and there were not many economical alternatives available.

But now, the scientific literature clearly establishes that:

a. Lactobacillus acidophilus is <u>not</u> a significant part of the normal intestinal flora of an adult human. (It is a significant, but still rather small part of the normal intestinal flora of an infant --- but by age 2 should be almost entirely absent.)

b. The benefits of lactobacillus acidophilus so cherished by the health food faithful are minimal. Lactobacillus acidophilus will acidify the gut, which gives symptomatic relief to many with constipation. It will help chase away the overgrowth of certain less than ideal bacteria that tend to populate the gut after antibiotic use. That's it. --- And --- there are several other probiotics (particularly the 2 that are in your IMMUNO-SYNBIOTIC) that confer these benefits far more effectively.)

c. Lactobacillus acidophilus does survive the journey through the human gut. That was part of the reason for its early success. --- Studies demonstrated that L. acidophilus supplementation would dramatically increase its population in the colon, so it was celebrated as being "effective." But in so effectively (though temporarily) colonizing the colon, L. acidophilus crowds out the beneficial bacteria that produce the essential short chain fatty acids such as butyrate. Excess lactic acid production displaces the production of the more important acetate, proprionate, and especially the all-important butyrate. As explained in last month's Letter, it is the SCFAs, particularly butyrate, derived from the presence of healthy intestinal flora, that is responsible for virtually all the benefits of probiotic supplementation. L. acidophilus supplementation leads to competitive inhibition of other flora that produce significantly more butyrate.

   Lactobacillus acidophilus thus does not contribute significantly to the support of the immune system derived from healthy, natural intestinal flora. --- Remember --- 75% of your immune system is in the mucosa of your GI tract. If you want a tremendous immune system boost and a significant decrease of INE stress, you will get it from your IMMUNO-SYNBIOTIC --- you will <u>not</u> get it from L. acidophilus supplementation.

d. In those with a compromised immune system, particularly those with immune deficiency, or in premature infants, or other children in poor health, Lactobacillus acidophilus can actually become pathogenic. For example, in infants and children in low socioeconomic groups, supplementing with L. acidophilus actually increases their incidence of lower respiratory tract infections.

e. And who in the world wants lactic acid, anyway? Lactic acid is toxic. Your body goes to great lengths to eliminate lactic acid. Lactic acid will exacerbate Anaerobic Imbalances, any form of Acid Imbalance, and any form of Alkaline Imbalance. That means that more than half your patients who have Metabolic Imbalances will have at least their symptoms if not their fundamental metabolic state of imbalance exacerbated by the absorbed lactic acid created by Lactobacillus acidophilus. --- And, those harmful effects are from <u>l</u>-lactic acid. Lactobacillus acidophilus, in some people more than others, also produces <u>d</u>-lactic acid, which is <u>extremely</u> toxic. It is one of the nastiest intestinal-derived toxins in terms of demand placed on both the liver and the immune system.

So now, you've got me in a predicament. My intent is to devote this Letter to singing the praises of your IMMUNO-SYNBIOTIC --- enabling

you to share in my celebration of this tremendous new product we have to offer our patients. But so many of you are, in righteous indignation, literally pleading, "Dr. Schenker, say it isn't so. --- We believe in Lactobacillus acidophilus. Your shining the light of truth on our health food dogma is too painful to endure!"

Since the whole point of NUTRI-SPEC is an understanding of objective reality as relates to clinical nutrition, I naturally respond to all these pleas with a promise to provide references from the scientific literature exposing the shortcomings of L. acidophilus. But humbug!!! I do not want to waste an entire issue of this Letter on the negatives of health food mythology, when I would rather be celebrating the positives of your NUTRI-SPEC products. --- So --- I am delivering on my promise, but if you want the several page write-up exposing L. acidophilus, you will have to read the version of this month's Letter on our website.

So now --- back to the celebration --- yet another expanded issue of this Letter singing the praises of a supplement you can find only at NUTRI-SPEC, and its role in your practice. Whether you are offering your patients NUTRI-SPEC Metabolic Balancing, or serving them with your newly revised, easy to use Diphasic Nutrition Plan, IMMUNO-SYNBIOTIC is about to carry you to a new level of clinical success.

If you wanted to pick just one bacterial probiotic to do everything you ever dreamed a bacterial probiotic could possibly do, which species would you choose? In other words, which bacterial probiotic would do all the things you want to believe Lactobacillus acidophilus does, but does not? The winner by a landslide in the bacterial probiotic competition is Lactobacillus reuteri.

Lactobacillus reuteri is the most effective of all the probiotic bacteria. Anything any other probiotic does, lactobacillus reuteri does better, and it demonstrates more profound effects on the immune system. An important consideration when evaluating probiotic bacteria is the presence of mucus-binding proteins. These mucus-binding proteins are cell surface proteins important to the adherence of the bacteria to the host epithelium. L. reuteri exhibits very high mucosal binding and excellent aggregation and colonization capacity. L. reuteri synthesizes hydroxy-propionaldehyde as a natural defense system, which has potent anti-microbial activity. It kills noxious bacteria by depleting sulfhydril groups in glutathione and in proteins of those bacteria, thus resulting in cell death.

L. reuteri is one of a limited number of indigenous lactobacillus species occurring naturally in the human intestine.

L. reuteri induces significant colonization of the stomach, duodenum, and ileum of healthy humans, and is associated with significant alterations of the immune response in the gastrointestinal mucosa. Specifically, gastric mucosal histiocyte numbers are reduced and duodenal B-lymphocyte numbers are increased. L. reuteri administration induces a significantly higher amount of CD-4+ T-lymphocytes in the ileal epithelium.

A study on factory workers was done to evaluate the immune system boosting effects of L. reuteri. The number of sick days from work was tracked in a placebo group versus a group given a very small amount (only 10^8 CFU) of L. reuteri for 80 days. During that 80 days, 26% of the workers in the placebo group had at least 1 day of sick leave. Only 11% in the L. reuteri group missed 1 or more days of work. In the small subpopulation of workers who rotated shifts from week to week, 33% in the placebo group missed work over the course of the study and 0% of those taking L. reuteri missed work.

L. reuteri increases the white blood count in elderly patients.

L. reuteri has different, and even opposing effects on immune markers in the GI tract. Dendritic cells play a pivotal immuno-regulatory role in the Th-1, Th-2, and Th-3 cell balance and are present throughout the GI tract. Various species of Lactobacillus differentially activate dendritic cells. L. reuteri inhibits pro-inflammatory cytokine IL-12, IL-6, and TNF-alpha induction by the strong cytokine inducer L. casei. Also, L. reuteri reduces L. casei-induced up-regulation of B7-2.

L. reuteri increases the production of SCFA from prebiotics. L. reuteri improves inulin's fermentation profile by reducing the total SCFA peak at 4 hours and enhancing fermentation at 8 and 12 hours.

L. reuteri has profound effects on the immune system. It decreases lipopolysaccharide-induced Interleukin-8 (IL-8) and Interferon gamma (IFN-g). L. reuteri is beneficial in atopic and non-allergic dermatitis in children by decreasing IFN-gamma and IL-4. It also decreases elevated IFN-g and IL-4 in asthma patients.

L. reuteri converts glycerol into a potent broad-spectrum antimicrobial compound, reuterin, which inhibits the growth of both gram positive and gram negative bacteria, as well as fungi, yeasts, and protozoa.

L. reuteri, in an in vitro study of chronic active colitis in mice, had the following effects: increased IL-10, decreased IL-6, decreased IL-12p70. Moreover, for the first time, it is shown that L. reuteri induces expression

of HO-1, a stress-inducible enzyme with antioxidant and anti-inflammatory properties.

Oral supplementation with L. reuteri (but not L. salivarius) in mice, significantly attenuated the influx of eosinophils to the airway lumen and parenchyma and reduced the levels of TNF, monocyte chemo attractant protein-1, IL-5, and IL-13 in bronchoalveolar lavage fluid of antigen-challenged animals. L. reuteri (but not L. salivarius) also decreased allergen-induced airway hyper responsiveness. Conclusion: L. reuteri can attenuate major characteristics of an asthmatic response in a mouse model of allergic airway inflammation.

L. reuteri (but not L. plantarum) primes monocytes-derived dendritic cells to drive the development of T cells. These T cells produce increased levels of anti-inflammatory IL-10, and are capable of inhibiting the proliferation of bystander T cells. L. reuteri binds the C-type lectin dendritic cell-specific intercellular adhesion molecule 3-grabbing-non-integrin (DC-SIgN) . This targeting of DC-SIgN by L. reuteri explains its beneficial effect in the treatment of a number of inflammatory diseases, including atopic dermatitis and Crohn's disease.

Oral administration of L. reuteri induces expression of the pro-inflammatory Th-1 cytokines TNF-alpha, IL-2, and/or IL-1 beta, and also enhances the IgG response against parenterally administered haptonated chicken gamma globulin, particularly IgG2a.

L. reuteri reduces elevated cholesterol and triglycerides.

L. reuteri prevents vitamin B12 deficiency symptoms in B12 deficient pregnant mice and their weaned offspring.

L. reuteri suppresses H. pylori infection in humans and decreases the occurrence of dyspeptic symptoms.

L. reuteri suppresses human TNF production by LPS-activated monocytes and primary monocyte-derived macrophages from children with Crohn's disease.

L. reuteri is effective in inhibiting colitis in IL-10-deficient mice. The mechanism is up-regulation of nerve growth factor and inhibition of IL-8 induced by TNF-alpha. L. reuteri also inhibits IL-8 synthesis induced by Salmonella enterica. The conclusion is that L. reuteri has potent direct anti-inflammatory activity on human epithelial cells. L. reuteri also up-regulates the unusual anti-inflammatory molecule NGF, and inhibits NF-kappa B translocation to the nucleus.

Bile salt hydrolase-active L. reuteri reduces bile salt cytotoxicity. Bacterial bile salt hydrolysis is considered a risk factor for the development of colon cancer because of the risk of forming harmful secondary bile salts after the initial deconjugation step. Protective effects of L. reuteri involve a precipitation of the deconjugated bile salts and a physical binding of bile salts by the bacterium, thereby making the harmful bile salts less bioavailable.

L. reuteri was administered in the form of a lozenge to test subjects with elevated salivary mutans Streptococci. Salivary S. mutans levels were significantly reduced.

L. reuteri protects diabetic rats from renal fibrosis.

L. reuteri inhibits yeast growth in women with vulvovaginal Candidiasis, and does so by upregulating Interleukin-8 and IP-10 in the vaginal epithelium.

L. reuteri kills streptococci. L. reuteri kills Candida; it is also anti-strep in the saliva when added to chewing gum. L. reuteri also decreases infantile colic. L. reuteri enhances immunoglobulin-G1 and immunoglobulin-G2A antibody responses to Candida albicans. L. reuteri, when taken orally, decreases vulvovaginal Candidiasis and also bacterial vaginosis.

L. reuteri prevents enteric colonization by Candida in preterm newborns, and significantly reduces GI symptoms. L. reuteri also decreases the incidence of abnormal neurological outcomes in preterm infants.

L. reuteri significantly inhibits all the clinical isolates of MRSA.

L. reuteri prevents colitis by reducing p-selectin-associated leukocyte endothelial interactions and platelet-endothelial interactions.

L. reuteri protects against asthma in mice by increasing the percentage and total number of CD-4 (+) CD-25 (+) Foxp-3 (+) T cells in spleens. CD-4 (+) CD-25 (+) cells isolated from L. reuteri-fed animals also have greater capacity to suppress T-effector cell proliferation. This L. reuteri potent immuno-regulatory action may have therapeutic potential in controlling the Th-2 bias observed in atopic individuals and asthmatics.

L. reuteri decreases rotavirus infection by influencing the distribution and frequency of monocytes/macrophages and conventional dendritic cells in the ileum, spleen, and blood. Colonization with L. reuteri alone also significantly increases the frequencies of monocytes/macrophages and dendritic cells and the CD-14 expression on monocytes/

macrophages in the ileum and spleen compared to the controls. Conclusion: L. reuteri colonization down-regulates HRV infection-induced monocytes/macrophage activation/recruitment at the systemic lymphoid tissue.

L. reuteri colonization is increased by supplementation with sorbitol, which is a prebiotic as effective as FOS. Sorbitol intake also significantly increases colonic and cecal butyrate levels. (Where do you find sorbitol in your NUTRI-SPEC supplements?)

L. reuteri survives stomach acid and upper GI bile salts better than most probiotics.

L. reuteri has a mucus adhesion-promoting protein considered to be its adhesion factor. However, L. reuteri not only binds to mucus but also binds to Caco-2 cells, showing that L. reuteri binds not only to mucus but also to intestinal epithelial cells.

L. reuteri exhibits antimicrobial activity that can be attributed neither to bacteriocins nor to the production of reuterin nor organic acids. The active compound is reutericyclin, that inhibits the growth of LPS mutant strains of E. coli as well as Enterococcus faecalis, Staphylococcus aureus, Listeria innocua.

L. reuteri produces less volatile sulfur compounds than do other probiotics.

L. reuteri, in infants who are not breast fed, when compared to Bifidobacterium lactis or to control, results in a significant decrease in the number of days with fever, decreased doctor visits, decreased childcare absences, decreased antibiotic prescriptions, and decreased diarrhea.

L. reuteri supplementation during the last 4 weeks of pregnancy results in L. reuteri in the colostrum when the infant is born.

L. reuteri supplementation of infants results in increased fecal L. reuteri, and that L. reuteri count is not adversely affected by antibiotics.

L. reuteri is effective in reducing the duration of diarrhea in children attending daycare centers.

L. reuteri reduces diarrhea in children hospitalized with acute diarrhea, and reduces the period of rotavirus excretion.

L. reuteri at a dose of 10^8 CFU per day in early breastfed infants improves symptoms of infantile colic and is well-tolerated and safe. Crying time is reduced by 50%. There is a significant increase in fecal lactobacilli and a reduction in fecal E. coli as well as a reduction in fecal ammonia.

L. reuteri reduces abdominal pain intensity in children with functional abdominal pain.

L. reuteri, when given to infants with functional chronic constipation, increases the frequency of bowel movements.

L. reuteri is one of 3 probiotics most effective in children with diarrhea. The other 2 are Lactobacillus GG and Saccharomyces boulardii.

L. reuteri supplementation during late pregnancy reduces breast milk levels of TGF-beta 2, and low levels of this cytokine are associated with less sensitization and less IgE-associated eczema in breast-fed infants. The colostrum also contains slightly increased levels of anti-inflammatory IL-10.

Assuming you are now thoroughly convinced of the superior benefits of L. reuteri on the ImmunoNeuroEndocrine stress of your patients, stop to consider this:

L. REUTERI IS THE LEAST IMPORTANT OF THE 5 INGREDIENTS IN YOUR IMMUNO-SYNBIOTIC.

All 4 other ingredients have an even greater effect on the connection between the GI tract and the immune system as the gut:

- initiates the release or inhibition of pro-inflammatory cytokines
- initiates the release or inhibition of anti-inflammatory cytokines
- activates macrophages when the need is perceived
- triggers lymphocytosis when the need is perceived
- initiates and coordinates the action of its billions of mast cells, the most fundamental component of the innate immune response
- connects the immune system to the nervous system as mast cells cluster around sympathetic and parasympathetic nerve endings in the gut wall
- responds with an appropriate alarm reaction to the toxins produced by abnormal bacteria, fungi, yeast, or viruses in the GI tract --- triggering the release of the pro-inflammatory cytokines Interleukin-1 and Interleukin-2.

The 5 ingredients of your IMMUNO-SYNBIOTIC have synergistic effects, giving you power over INE stress that other nutritionists can only dream of. Your NUTRI-SPEC Metabolic Balancing and Diphasic Nutrition Plan give you two incomparable strategies to meet the specific nutrition needs of all your patients.

Actions to take:

1) Use your Doing FINE strategy for all your Diphasic Nutrition Plan (DNP) patients who have Chronic Fatigue Syndrome, Fibromyalgia Syndrome, Multiple Chemical Sensitivities, Post Traumatic Stress Disorder, or Major Depression ----- or ----- who have autoimmune disease such as Rheumatoid Arthritis, Lupus, Alopecia, Insulin-Dependent Diabetes, Hashimoto's or Grave's Thyroiditis, Crohn's Disease, Ulcerative Colitis, Sjogren's, etc.

2) Use Doing FINE to Facilitate INE balance --- to calm the raging storm and replenish reserves --- in all your Metabolic Balancing patients who either have the above conditions or who show that they are vacillator-oscillators upon follow-up testing.

3) Use IMMUNO-SYNBIOTIC for all your patients who are Doing FINE.

4) Have every patient (and yourself and your family) go through a bottle of IMMUNO-SYNBIOTIC, 3, 2X daily before meals, at least once each year.

5) Give all your patients with asthma, chronic sinus congestion, allergies, Irritable Bowel Syndrome, GERD, and chronic Candida or other fungal infections of the skin, GI tract, or urinary tract, at least 2 bottles of IMMUNO-SYNBIOTIC.

6) Give all your patients with Eosinophilic Fungal Rhinosinusitis (which, by definition, means everyone with recurring sinus congestion) a punch in the nose with BOOGEY BUSTER, at least 4 times daily. KILL, FLUSH. KILL, FLUSH. KILL, FLUSH. KILL, FLUSH.

7) Give your patients A GOOD THYME for Candida in the mouth, at the root of the tongue, or in the esophagus; for Candida or other fungal overgrowth of the gut; for H. pylori infection of the stomach or duodenum; for a more extensive sinus irrigation than can be achieved with BOOGEY BUSTER.