



# OIL OF OREGANO

**NATURE'S ANTIBIOTIC**

**Dr. James Meschino DC, MS, ND**



## About Dr. James Meschino, DC, MS, ND



A recognized expert in the use of nutritional supplements in the prevention and management of degenerative diseases and anti-aging, Dr. James Meschino, DC, MS, ND, was appointed to the advisory board of the Academy of Anti-Aging Research in 2001. He is a doctor of naturopathy, an associate professor at the Canadian Memorial Chiropractic College and has been a Faculty Member of the American Council of Exercise (ACE). He is also a faculty member of the Integrative Cancer Therapy Fellowship Program for physicians, sanctioned by the American Academy of Anti-Aging Medicine.

Dr. Meschino has appeared as a health and anti-aging expert on many television and radio programs in Canada and the United States.

The published author of five nutrition, supplementation and wellness books, he has also had over 50 research review papers on nutritional supplementation published by *America-Online* and is the regular anti-aging and natural therapies columnist for *Dynamic Chiropractic*. Dr. Meschino's continuing education seminars for health practitioners are authorized for continuing education credits in many states and provinces throughout North America.

- A Comprehensive Guide to Minerals
- A Comprehensive Guide to Herbs
- A Comprehensive Guide to Accessory Nutrients and Esser

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## Introduction

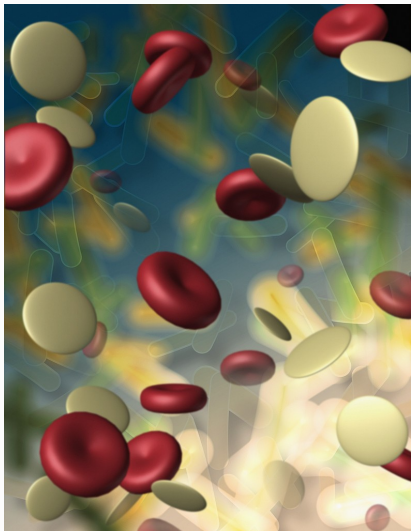
The healing powers of oil of oregano were virtually unknown in North America until the early 1900's, even though our ancestors have relied on its medicinal effects for thousands of years. Hippocrates wrote volumes on how to use this medicinal herb in the treatment of many conditions. In recent years, oil of oregano has been largely investigated for its antimicrobial properties.

A unique blend of oil of oregano known as the [P73 wild oregano blend](#) has been the subject of several recent investigative studies, which have examined its ability to kill various viruses, bacteria, yeasts and other microorganisms that are known to adversely affect human health. The fungal fighting properties of P73 wild oil of oregano are supported by research conducted at the Georgetown University Medical Center and led by Harry G. Preuss, M.D. The study, which was published in the journal Molecular and Cellular Biochemistry, tested the efficacy of oregano oil against the fungal infection *Candida albicans* (better known as a yeast infection).

The study concluded that oil of oregano “can act as a potent antifungal agent against *Candida albicans*” (1). Other experimental studies have shown that this [unique blend of oil of oregano](#) kills at least 30 different strains of harmful



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bacteria, such as *Staphylococcus aureus* as well as other microorganisms, including coronaviruses, which are the second most common viruses to cause the common cold. Coronaviruses can also cause pneumonia and other respiratory infections (2-6).

The [P73 oil of oregano blend](#) has also been shown to kill the *Helicobacter pylori* (*H. pylori*) bacterium, which is known to be a causal factor in up to 90% of duodenal ulcers and 80% of stomach (gastric) ulcers. A small clinical trial begun in 2003 demonstrated that the P73 oil of oregano blend showed positive results in patients with stomach and duodenal ulcers.

## Antimicrobial Active Constituents

Oil of oregano is known to be a rich source of the volatile oils thymol and carvacrol, which have been shown to be largely responsible for its ability to kill various microorganisms under experimental conditions. Oil of oregano also contains other active constituents including flavonoids and a host of vitamins and phytonutrients.



The [P73 wild oregano blend](#) represents the first oregano-based product to be tested under controlled scientific conditions, for its ability to kill a variety of common microorganisms, which are associated with infectious conditions in humans.

The [P73 wild oregano blend](#) has been created using a proprietary, evaporative technique on the edible oils. The technique used on the wild, mountain-grown oil of oregano, as well as the other natural spice extracts, creates a potent and concentrated formula. The oregano species used to make this extract is 100% handpicked Mediterranean oregano, and is produced by traditional methods of cold pressing and steam distillation. No chemicals are used to extract the active ingredients to help assure purity of the product.

***When using the 250 mg capsules of the P73 wild oregano blend, as part of the complementary management of various infectious conditions, most experts suggest the following protocols:***

<p><b>Colds</b> <b>Flu</b> <b>Acute Bronchitis</b> <b>Sinusitis</b></p>	<ul style="list-style-type: none"> <li>4 capsules every 3-4 hours at the earliest signs of a cold or flu-bug, or sinusitis, to help abort the condition and/or minimize symptoms and duration</li> </ul>
<p><b>Chronic Bronchitis</b> <b>Chronic Asthma</b></p>	<ul style="list-style-type: none"> <li>take 4 capsules, 2 or 3 times per day until condition improves to a significant degree and then reduce or eliminate the dosage, depending upon what dosage maintains improvement</li> </ul>
<p><b>Chronic Mono</b> <b>Chronic Fatigue</b></p>	<ul style="list-style-type: none"> <li>4 capsules, 2 or 3 times per day along with other supplements to boost immune and energy systems</li> </ul>
<p><b>Candida and Yeast Infections</b></p>	<ul style="list-style-type: none"> <li>4 capsules, three times per day until significant improvement is realized, upon which a lower maintenance dosage should follow until complete resolution of the problem is achieved</li> </ul>
<p><b>Duodenal ulcers</b> <b>Gastric (stomach) ulcers</b></p>	<ul style="list-style-type: none"> <li>3 capsules, twice per day (can be taken in conjunction with other medicines aimed at killing the H. pylori bacterium)</li> </ul>
<p><b>Acne</b> <b>Rosacea</b></p>	<ul style="list-style-type: none"> <li>Oil of oregano can also kill the bacteria and skin mite associated with acne and rosacea, respectively. Some patients have shown success with these conditions when taking 4 capsules, twice per day. A topical oil of oregano cream applied at night can further assist in these cases</li> </ul>

As a complementary supplement, oil of oregano can be used concurrently with other medications prescribed for the treatment of the above-noted conditions, but should not be used as a substitute for these medications without the consent of the attending physician.

## SAFETY OF OIL OF OREGANO

Toxicity studies indicate that oil of oregano is a very safe product and has not been associated with any serious side effects or negative health outcomes in thousands of years of use. However, as is the case with most supplements, oil or oregano capsules and topical products should not be used by women who are pregnant or breast feeding. It may also be prudent to ingest functional foods containing live cultures of friendly bacteria, such as yogurt, as a means to help maintain ideal levels of friendly gut bacteria if oil of oregano supplementation exceeds one month of continuous use, as may be warranted in some of the conditions noted in the previous (protocol) chart. Although oil of oregano primarily targets the killing of undesirable bacteria and other hostile microbes in the body, it may also minimize the concentrations of friendly gut bacteria with long-term use. To guard against this possibility, the regular ingestion of live friendly bacterial cultures from functional foods is recommended, as well as the daily ingestion of [prebiotics](#) (1,000 – 6,000 mg per day of FOS and Inulin), which are proven to foster the growth of the friendly gut bacteria.



## FIGHTING THE COMMON COLD

Here is my protocol for fighting the common cold. At the first signs of a cold this is what I recommend and follow myself in order to abort the cold, decrease the severity and/or shorten the duration:

### PROTOCOL FOR FIGHTING THE COMMON COLD

**Adëeva Orega-Sept** • 4 capsules every 3 to 4 waking hours

#### ***Immune Modulation:***

**Adëeva Immuno-Detox Prime** • 4 capsules every 3 to 4 waking hours  
*(contains reishi mushroom extract and astragalus and detoxification nutrients)*

**Adëeva Multi-Vitamin & Mineral** • 2 capsules, twice daily

**Additional Vitamin D** • 5000 IU per day

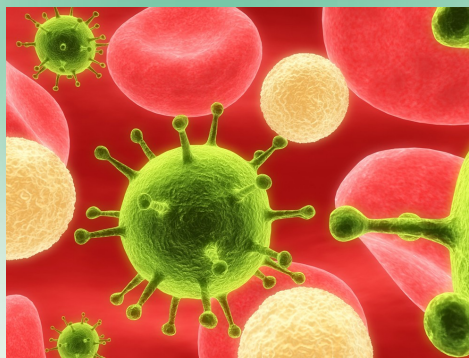
**Additional Vitamin C** • Up to 5000 mg per day

**Vitamin E Succinate** • 1000 IU

**Beta-Carotene** • 25,000 IU

## The Emergence of Antibiotic-resistant Bacteria: cautioning patients about the dangers of antibiotic drug over-use and abuse

In recent years there has been an escalation in the emergence of antibiotic-resistant bacteria. For instance, a recent report indicated that approximately one-third of all children and one-quarter of all adult Americans show signs of drug resistance to pneumococci bacteria. This is complicated by the fact that persons who demonstrate resistance to one drug often become resistant to other drugs working as well.



In other words, bacteria are fast learners and will thereby generate mutations that will enable them to survive and avoid the bacteriostatic and bacteriocidal effects of antibiotics. Drug-resistant infections increase risk of death, and are often associated with prolonged hospital stays, and sometimes complications. These might necessitate removing part of a ravaged lung, or replacing a damaged heart valve.



**Antibiotic resistance spreads fast.** Between 1979 and 1987, for example, only 0.02 percent of pneumococcus strains infecting a large number of patients, surveyed by the National Centers for Disease Control and Prevention, were penicillin-resistant. CDC's survey included 13 hospitals in 12 states. More recently, 6.6 percent of pneumococcus strains are resistant according to a report in the June 15 1994 *Journal of the American Medical Association* by Robert F. Breiman, M.D., and colleagues at CDC. The agency also reports that in 1992, 13,300 hospital patients died of bacterial infections that were resistant to antibiotic treatment. According to a report in the April 28, 1994, *New England Journal of Medicine*, researchers have identified bacteria in patient samples that resist all currently available antibiotic drugs.

## HOW ANTIBIOTIC RESISTANCE DEVELOPS

Drug resistance to antibiotics has largely occurred as a result of the overuse and abuse of these medications, which have been prescribed, in many instances, when the patient has a viral infection for which antibiotics are not effective. Approximately 150 million prescriptions for oral antibiotics are written each year in the United States. That is about one prescription for every 2 persons in the country. Antibiotics are the most commonly prescribed group of medication in primary care. The antibiotic does not technically cause the resistance,





but allows it to happen by creating a situation where an already existing variant can flourish. As such, the use of antibiotics generates selective pressure for resistance to occur, enabling more and more organisms to develop resistance to a greater number of antibiotics. For example, penicillin kills bacteria by attaching to their cell walls, then destroying a key part of the wall. The wall falls apart, and the bacterium dies. Resistant microbes, however, either alter their cell walls so penicillin can't bind or produce enzymes that dismantle the antibiotic

(penicillinase). Erythromycin attacks ribosomes, cellular organelles that make proteins. Resistant bacteria have slightly-altered ribosomes to which the drug cannot bind. The ribosomal route is also how bacteria become resistant to the antibiotics tetracycline, streptomycin and gentamicin. A patient can develop a drug-resistant infection either by contracting a resistant bug to begin with, or by having a resistant microbe emerge in the body once antibiotic treatment begins.

There are four general mechanisms that are responsible for the development of antibiotic resistance.

1. **Mutations occur in the gene encoding the target proteins so it no longer binds the drug.**

These are random events, occurring spontaneously that confer a selective advantage to the bacteria. This can be a single or multi-step mutation, with each establishing a slight alteration in susceptibility.

Examples of resistance through mutation include mycobacterium tuberculosis, escherichia coli and staphylococcus aureus. Mutations of this nature do not

require exposure to the particular drug. As a rule antibiotics bind to specific enzyme proteins, interfering with the action of biosynthesis of key compounds the bacteria requires for its survival and/or replication. If drugs like penicillin can not bind to transpeptidases, transglycosylases, D-alanine carboxykinases and/or there is diminished binding of the drug to protein receptors on the outer bacterial cell membrane or on the inner bacterial membrane, then the antibiotic loses its efficacy.

Thus, genetic mutations that lead to an alteration in the binding site of target proteins where antibiotics must bind to in order to be effective, create drug resistance to the antibiotics that require binding to those target proteins.

**Mechanisms Responsible for Development of Antibiotic Resistance**

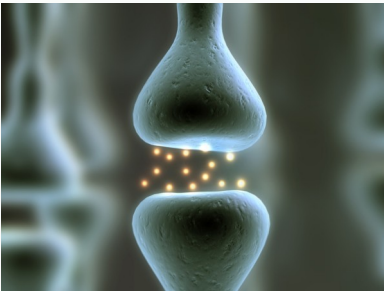
- ✓ Mutation
- ✓ Transduction
- ✓ Transformation
- ✓ Conjugation



2. **The second mechanism involves transduction, whereby a virus containing DNA, infects a bacteria.** The virus that infects the bacteria contains plasmids, bacterial DNA that contains genes for various functions, including one providing drug resistance. Incorporation of the plasmid makes the newly infected bacteria bacterial cell resistant and capable of passing on the trait of resistance to subsequent generations.

A single plasmid can provide a slew of different resistances. In 1968, 12,500 people in Guatemala died in an epidemic of Shigella diarrhea. The microbe harbored a plasmid carrying resistances to four antibiotics. One plasmid carries the code for penicillinase. Penicillinase is also known as beta-lactamase. ***This is a major factor in drug resistance pertaining to staphylococcus aureus.*** Other plasmids contain codes for resistance to erythromycin, tetracycline or chloramphenicol. In the case of penicillinase, there are compounds that inhibit this enzyme, which are sometimes used in cases of drug resistance, in combination with penicillin, to help overcome the problem. Penicillinase inhibitors include clavulanic acid, sulbactam and tazobactam.

3. **The third mechanism involves transformation where there is a transfer of DNA that is free in the environment, into the bacteria.** In this case one bacterium takes up DNA from another bacterium. Penicillin resistant pneumococci and neisseria are examples of this.



4. **The fourth mechanism of drug resistance is conjugation, which is the transfer of DNA from one organism to another during mating.** This occurs predominantly among gram-negative bacilli such as enterobacteriaceae and shigella flexneri.

## STEPS TO COMBAT ANTIBIOTIC DRUG RESISTANCE

There are a number of steps that can be taken by the medical and healthcare community to decrease the problem with drug resistance to antibiotics. At this critical point in time it is imperative for this action to be taken, as health authorities are warning that they are losing the war on keeping this problem in check and that the future looks very bleak, as altered forms of bacteria, that have developed drug resistant mutations and adaptations, are appearing at a rapid rate .

1. The first step to help combat the rising incidence of antibiotic drug resistance requires physicians to only prescribe antibiotics upon confirmation of a positive test culture or in cases where there is a high suspicion of a bacterial infection or infection by a microbe that is susceptible to the effects of antibiotics.



The red flags for serious bacterial infection that deem antibiotic treatment while awaiting the results of a test culture include:

- Loss of appetite; usually in the presence of a high fever
- Symptoms of dehydration (dizziness when standing, unsteady walk, orthostatic changes or vital signs, urine concentration of 1.025 to 1.030, and dry mucus membranes)
- Absence of fever, especially in patients with diabetes or in the extremes of life
- A fever higher than 102 degrees F, with lymphadenopathy, swelling and pain, sometimes accompanied by shaking chills.

In summary, antibiotics should be restricted to patients who can truly benefit from them — that is, people with bacterial infections. This is already being done in the hospital setting, where the routine use of antibiotics to prevent infection in certain surgical patients is being re-examined.



As drug resistance is especially common in children (affecting one-third in the U.S.), it is important for practitioners not to prescribe antibiotics for children until they have confirmation of a bacterial infection, or see very critical tell-tail signs of a bacterial infection. This is especially important in cases of otitis media, where antibiotics have been over prescribed over the years, promoting the drug resistance problems in children we see today. Physicians should no longer provide children with recurrent ear infections with extended antibiotic prescriptions to prevent future infections. As well, the prescribing of long-term antibiotic therapy for adolescent acne should also be discouraged. This is not a life-threatening infection and the course of treatment often runs for a number or years, which increases the likelihood of drug resistant staphylococcus bacteria emerging.



2. Another problem that arises with antibiotic use is that patients often stop taking the drug too soon, because symptoms improve. However, this merely encourages resistant microbes to proliferate. The infection returns a few weeks later, and this time a different drug must be used to treat it. Physicians should emphasize the importance of having patients complete the course of antibiotic treatment outlined by the physician and not stop the medication immediately upon improvement of symptoms.

3. Some hygiene measures should also be encouraged, such as more frequent hand-washing by healthcare workers, quick identification and isolation of patients with drug-resistant infections, and improving sewage systems and water purity in developing nations. As well, CDC is encouraging local health officials to track resistance data, and the World Health Organization has initiated a global computer database for physicians to report outbreaks of drug-resistant bacterial infections.

## ANTIBIOTICS IN ANIMAL FEED ARE ALSO CONTRIBUTING TO THE PROBLEM

The overuse of antibiotics in animal feed has also emerged as a contributor to antibiotic-resistant strains of bacteria that affect human health. Animals and humans constitute overlapping reservoirs of resistance and, consequently, use of antibiotics in animals can impact human health. In short, antibiotics fed to food-animals on a large scale, to prevent infections, treat infections, and as growth promoters, encourage the emergence of antibiotic-resistant bacteria, via the mechanisms outlined above. It is well documented that these resistant bacteria from animals spread to food products during slaughter and processing. Resistant bacteria can also



spread from the farm to the environment through manure. Direct transmission of resistant enterococci between animals and farm workers has been demonstrated in several studies. Transmission of resistant bacteria from food-animals to humans results in more healthy humans in the society carrying resistant bacteria. As such, the emerging evidence indicates that routine use of antibiotics in food-animals for growth promotion constitutes a serious public health problem, especially in case where the same classes of antimicrobials are being used in humans. Growth promoter use creates a major food animal reservoir of resistant bacteria, with a potential for spreading via human food intake or by animal contact.

Recent experience from a number of European countries has shown that the use of antimicrobials for growth promotion provides insignificant benefits to agriculture and that it can be terminated. Ending the use of antimicrobial growth promoters has led to reductions in the prevalence of resistant bacteria in food and food animals, as well as in humans, in the countries where this has occurred.

## NATURAL SUPPLEMENTS SHOULD BE CONSIDERED WHEN ANTIBIOTICS ARE NOT NECESSARY AND FOR BOOSTING IMMUNITY

Another consideration is for practitioners to recommend the use of a [natural supplement containing the P73 wild oregano blend](#) (oil of oregano) developed by Dr. Cass Ingram, D.O. Studies at Georgetown University and other research facilities have shown that its concentrations of volatile oils exert meaningful antimicrobial action against a host of pathogenic bacteria, certain viruses and candida albicans. From clinical experience I have found it to be effective in cases of chronic bronchitis, to lessen the severity and duration of the common cold (about 50-60% of the time, as it is effective against coronaviruses, not rhinoviruses), in cases of candida infections, nail fungus problems, acne, rosacea and some other chronic infections.

In cases where the patient does not demonstrate a necessity for antibiotics (as reviewed above) I truly believe that physicians should recommend 500-1,000 mg of P73 wild oregano blend (capsules), four times daily, until signs and symptoms are resolved.



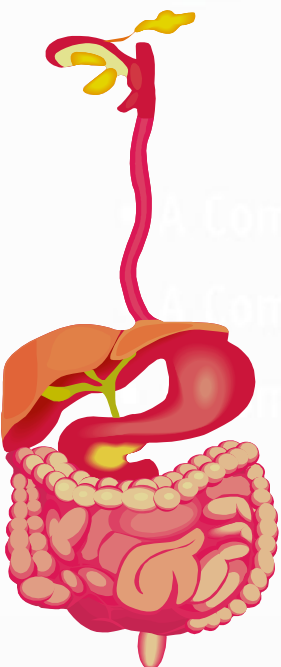
In addition, physicians should be made aware of the immunomodulating effects of [certain dietary supplements](#) and encourage their patients to take specific supplements on a daily year-round basis to reduce risk of virulent infections from occurring. This may be particularly important as one ages, as the immune system is less efficient as we age partially due to involution of the thymus gland. In my opinion, supplements of this nature include a [high potency multiple vitamin](#) along with a [supplement containing reishi mushroom extract and astragalus](#).

## Probiotics in Clinical Practice

A recent review of the experimental and clinical studies pertaining to the health benefits of probiotics was published in the journal, *Nutrition Reviews*, in July 2011.

Over the years there have been many claims and theories about the health benefits of probiotics. The article by Taylor Wallace and fellow researchers is most helpful in bringing practitioners and patients up to date as to the evidence-based use of probiotics, with respect to their potential application in clinical practice.

Following is a discussion on the clinically relevant points brought forward by Wallace et al, to potentially be used as a means to help practitioners incorporate safe, responsible and effective probiotic recommendations into their daily practice.



### PROBIOTIC SUPPLEMENTATION BENEFITS: AN OVERVIEW

The human large intestine houses over 1,000 different types of bacteria, known as the microflora. Studies in recent years have shown that supplementation with health-promoting strains of bacteria can exert beneficial effects on preventing certain ailments and helping to better manage others.

Health-promoting effects of gut-friendly bacteria are reported to include the following: immune bio-regulation, improved digestion and absorption, vitamin synthesis (vitamin K, biotin – a B vitamin, other B-vitamins), inhibition of the growth of harmful bacteria and fungi, cholesterol reduction, and lowering of gas distension. In fact, over 700 randomized, controlled, human studies

provides strong evidence that probiotic supplementation may aid in preventing or treating various GI tract disorders, promoting GI health, and preventing metabolic syndrome. For example, the Bifidobacteria and lactobacilli are commonly used probiotics in various supplements. Supplementation studies suggest that they may aid lactose digestion in lactose-intolerant individuals, reduce constipation and infantile diarrhea, assist resistance to infections, and reduce inflammatory conditions in the gut.

## METABOLIC EFFECTS OF PROBIOTICS AND THE GUT MICROFLORA

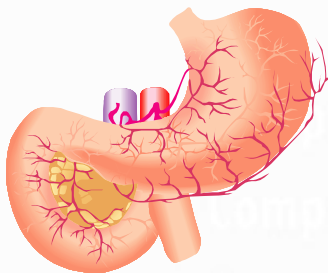
Bacteria within the gut microflora degrade and/or ferment various substrates including starches, soluble dietary fibers, and other carbohydrate sources available in lower concentrations (oligosaccharides and portions of non-absorbable sugars and sugar alcohols). Proteins and amino acids can be effective growth substrates for colonic bacteria. The same is true for bacterial secretions, lysis products, sloughed epithelial cells, and mucins.

A wide range of bacterial enzymes degrade these materials into various intermediates, which are then fermented into organic acids, histamine, carbon dioxide, and other neutral, acidic, and basic end products. The intermediate and end-products formed in this process have been shown to provide various health influences of importance:



1. **Suppress Growth of Harmful Bacteria and Other Undesirable Microorganisms** - Acidification of the large bowel by probiotics may inhibit the growth of pathogens and the production of toxic compounds such as ammonia and amines. Probiotics can compete for some of the same attachment sites as harmful bacteria and fungi, use the same nutrients, and produce antimicrobial compounds that inhibit the growth of these pathogens.

Many probiotics are known to inhibit adhesion and displace pathogens such as *Salmonella*, *Escherichia coli*, *Listeria*.



2. **Cancer Inhibition** - Carbohydrate fermentation yields short-chain fatty acids such as butyrate, which inhibits DNA synthesis and stimulates apoptosis (programmed cell death).
3. **Enhanced Nutrient Absorption** - Carbohydrate fermentation and short-chain fatty acids improve the absorption of calcium, magnesium, and phosphorus.
4. **Immune Modulation** – Various probiotics have been shown to modulate the immune system. In short, various bacterial components and secretions

modulate activity of gut immune cells (dendritic cells, macrophages) via stimulation of signal transduction pathways within various immune cells. In turn, this effect has been shown to enhance immune system efficiency at both the mucosal and systemic level. As such, probiotic supplementation has the potential to improve the body's global immune function, in addition to local gut immunity. Bacterial components and secretions have also been shown to up-regulate release of immune modulating cytokines and chemokines from intestinal epithelial cells. Intestinal epithelial cells play an active role in the innate immune response.

*...probiotic supplementation has the potential to improve the body's global immune function, in addition to local gut immunity.*

5. Some probiotics have also been shown to **alter mucosal immune function** via enhancement of antibody production, increase of phagocyte and natural killer cell activity, and the induction of regulatory dendritic cells and various T-lymphocytes. Some probiotic bacteria, particularly bifidobacteria, also encourage the maturation of dendritic cells. Like macrophages, dendritic cells are both phagocytic (destroying invaders) and primary antigen-presenting cells, which recruit other immune cells into the fight against pathogens.
6. **Improve Digestion** - Friendly gut bacteria also produce digestive enzymes, improving digestion in individuals with various food intolerances (e.g. lactose intolerance).
7. **Guard Against Antibiotic-associated Diarrhea and Related Complications** - Probiotic supplementation has been shown to restore normal gut function and microflora activity following antibiotic therapy.
8. **Reduce Risk of Intestinal Infections** – The gut microbiota is reported to contribute to human protein homeostasis. Germ-free animals are highly susceptible to infections, providing evidence that the intestinal microbiota is considered an important defense barrier.



9. **Decrease Inflammation** – Probiotics have been shown to down-regulate the activity of nuclear factor-kappa beta (NF-kb) within intestinal epithelial cells. NF-kb is a transcription factor that promotes the release of many inflammatory cytokines, which can have a local or systemic effect on various inflammatory conditions. As such, inhibiting the activity of NF-kb is thought to be a key mechanism through which probiotic supplementation may be an important adjunct in the management of inflammatory bowel disease, as well as rheumatoid arthritis, other autoimmune diseases, asthma, psoriasis, and sepsis. Probiotic

supplementation has also been shown to increase release of interleukin 10 (IL-10) from dendritic cells - an important anti-inflammatory cytokine.

**10. Improved Intestinal Barrier** - Probiotics also enhance epithelial barrier function through several mechanisms, including effects on epithelial tight junction proteins, increased production of intestinal mucus, enhanced mucosal immunoglobulin A responses, and other mechanisms. Animal studies show that a specific probiotic combination was able to normalize intestinal barrier function in colitis.

## COMMON PROBIOTIC SPECIES

Probiotic terminology can be a bit confusing because the word acidophilus is often used as a general name for a group of probiotic bacteria commonly used in probiotic supplements. This common group of bacteria include:

- *Lactobacillus acidophilus*
- *Lactobacillus casei*
- *Lactobacillus delbrueckii subspecies - bulgaricus*
- *Bifidobacterium species*
- *Streptococcus salivarius subspecies - thermophilus*

More accurately, lactobacillus (acidophilus, casei and bulgaris) are the common lactobacillus bacteria used in many probiotic supplements. Bifidobacterium infantis, B. brevis, and B. longum are also common bifidobacteria that reside in the human large intestine and vagina, and are also popular constituents of probiotic formulations (M.A. Schell. 2002).

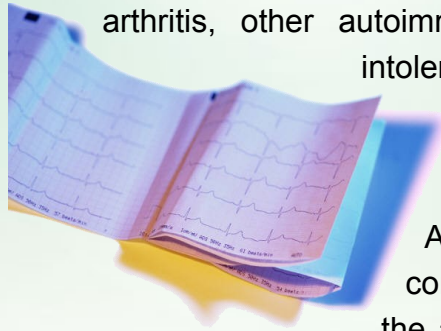
B. infantis was shown to dramatically reduce irritable bowel syndrome (IBS) in a recent clinical trial (K.J. Isselbacher. 2005).

The lower number of *Bifidobacteria* in formula-fed babies has been linked to risk of diarrhea and allergies that are usually associated with babies who are not breast-fed. As well, *bifidobacteria* produce lactic acid instead of gas (like *E. coli*), and thus, infants and adults with more *bifidobacteria* have been shown to have less gas and digestive problems. There is also a significant difference in the incidence of antibiotic-associated diarrhea in the children receiving probiotic-supplemented (enriched with *bifidobacterium*) formula (16%) than non-supplemented formula (31%) (N.B. Correra. 2005).

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## CLINICAL APPLICATIONS AND CONSIDERATIONS

Research over the past 25 years suggests that probiotic supplements may be a useful adjunct in the management of various health conditions such as antibiotic-associated diarrhea, necrotizing enterocolitis, inflammatory bowel disease, and extraintestinal disorders including atopic dermatitis and recurrent urinary tract infections. Other considerations include rheumatoid arthritis, other autoimmune diseases, immune-compromised states, psoriasis, food intolerances, and other conditions where digestion may be compromised. Probiotic supplementation may also be a consideration as part of a colon cancer prevention program.



At the moment there is no single probiotic combination that is considered to be the gold standard by the scientific community. In the article by Wallace TC et al, in the journal, *Nutrition Review* (see references), there is a summary of the recent studies on the effects of probiotics on systemic and mucosal immune function, barrier function and metabolism; the article also reports on the health outcomes provided by each strain of bacteria. Researchers in this field suggest using the probiotic bacteria, which have been shown to provide the desired health outcome, on a case-by-case basis. Having looked at this information, I suggest using a probiotic supplement that contains various strains of bacteria, ensuring the presence of the bifidobacteria and lactobacilli. For example, the probiotic combination supplement shown to improve intestinal barrier function in animals with colitis included a commercial supplement that contains *Lactobacillus casei*, *Lactobacillus plantarum*, *Lactobacillus acidophilus*, and *Lactobacillus delbrueckii* subspecies *bulgaricus*, *Bifidobacterium longum*, *Bifidobacterium breve*, *Bifidobacterium infantis*, *Streptococcus salivarius* subspecies *thermophilus*.

Note that a specific dosage of probiotic supplementation has yet to be standardized, and thus, as practitioners we are left at the mercy of the product manufacturers and the dosage recommendations listed on the label of the various products. However, probiotic supplementation has been shown to be superior to deriving probiotics from functional foods (e.g. yogurt). Supplementation has been shown to be a more consistent method and provides a much higher dose. However, probiotic-containing foods can add some additional benefit in this regard.

...probiotic supplementation has been shown to be superior to deriving probiotics from functional foods (e.g. yogurt).

From a safety standpoint probiotics should be used with caution in children, elderly persons, and individuals with major risk factors or multiple minor risk factors.



Remember that, [supplementation with prebiotics](#), such as fructo-oligosaccharide (FOS) and inulin, can also help spur the growth of friendly gut bacteria. Prebiotics are the food upon which friendly bacteria thrive. Many health outcomes available from probiotic supplementation have also been shown to occur with supplementation of prebiotics. Thus, daily ingestion with soluble fiber, as well as [1000-5000 mg of FOS and inulin](#), may be helpful in the prevention and management of some of the health conditions mentioned above. As well, it seems to make sense to take a [prebiotic supplement](#) in conjunction with probiotics to optimize the potential for probiotic bacteria to thrive in the large bowel.

## Summary

In cases where the use of oil of oregano ([p73 wild oregano blend](#)) can be used to help fight a chronic or acute infection, acne, rosacea, or asthma, it is wise to also take a probiotic supplement that contains acidophilus and bifido bacteria species, as described in the previous article. The use of probiotics helps to prevent oil of oregano from killing off the healthy gut bacteria. This is an important consideration when using oil of oregano for more than 7-14 consecutive days. Probiotic supplementation also improves immune function as previously noted, an important consideration in fighting chronic infections in particular.

Remember that although oil of oregano has a direct killing effect on many germs (pathogenic microorganisms), there are a number of supplements that can help improve the body's immune system. This is of importance in fighting many infections (both chronic and acute). Thus, the inclusion of supplements containing meaningful doses of [medicinal mushrooms](#) (e.g. reishi mushroom), [astragalus](#), [vitamin C](#), [vitamin E](#), [Selenium](#), [Vitamin D](#), probiotics and [prebiotics](#), should be considered as adjunct to the use of oil of oregano, in many circumstances.

My suggestion is that you speak to your health practitioner about the appropriateness of these strategies in your individual case and seek his/her guidance as to how to access supplements that meet the requirements outlined in this review.

***For more information on this or other related topics, visit Dr. Meschino's website at:***

**<http://www.meschinohealth.com/>**



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