

The McDougall Newsletter

THE NEWSLETTER WITH JOHN & MARY McDUGALL



MARY & JOHN McDUGALL

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The Gut and Its Microflora—Our Unappreciated Vital Organ

I'll bet you never thought about the contents of your colon as something vital for your robust health. It is time to give some overdue appreciation to your intestines. Within our intestine live trillions of organisms that are so important to our health and survival that they should be thought of as an organ of our body akin to our liver or kidneys. The bacteria and other organisms living in our intestine are known as the *gut microflora*. Their many functions include completing the digestion of our foods through fermentation, protecting us against pathogenic (disease causing) bacteria, synthesizing water soluble vitamins, and stimulating development of our immune system. The health of the flora can become impaired by temperature, illnesses, antibiotics and other drug treatments, and changes in our diet. The effects of antibiotic therapy can be profound and persistent, even causing a life threatening infection with *C. difficile* bacteria when they overgrow and replace normal gut microflora — a real testament to the vital nature of this organ.

Our Complex Gut Microflora

Approximately 28 feet of digestive tube, known as the gut and intestine, processes our foods into life giving nutrients. The first 23 feet, which include the mouth, esophagus, stomach, and small intestine, mechanically divide the foods we eat, mix them with digestive enzymes, and then break them into microscopic particles ready for absorption into the body. The last

five feet, known as the large intestine, or colon, works as a microbial factory. More than 400 different species of bacteria have been identified living in a single person. These bacteria are not distributed randomly throughout the intestinal tract, but are found in different numbers and kinds in different regions of the gut. The stomach and small intestine contain low numbers; the last part of the small intestine contains many more organisms. Within the

colon, their concentration reaches 1,000,000,000,000 (a trillion) per milliliter of feces. On the typical American diet, one-third of the dry weight of the feces is bacteria. (On a healthy diet, dietary fiber dilutes the concentration.) Although the bacteria are the predominant microflora, protozoans, yeast and other microorganisms are also present.

Our Diet Grows Friendly Flora

Dynamic balances exist between the microflora, our bodies, and our diet that directly influence the initial acquisition, development, and eventual stability of the gut ecosystem. The remnants of the foods we eat that are not digested by our small intestine become the foods for the microflora. Different bacteria live better on different sources of nutrients, similar to the way plants and animals do.

Undigestible complex carbohydrates, known as dietary fiber and undigestible (plant-derived) sug-

Within our intestine live trillions of organisms that are so important to our health and survival that they should be thought of as an organ of our body akin to our liver or kidneys.

ars, provide the bulk of the food for these bacteria. In general, people eating a vegetarian diet have higher counts of aerobic bacteria (bacteria that can live in the air) and lower counts of anaerobic bacteria (can live and grow in the absence of oxygen) than meat eaters (*J Nutr* 105:878, 1975). Most importantly, the gut microflora of meat-eaters contains greater amounts of "unfriendly" bacteria that do unhealthy things to the host (you). A vegetarian diet promotes the growth and activity of "friendly" bacteria.

The Newborn

The gastrointestinal tract of a normal fetus is sterile. During the birth process the newborn is inoculated primarily by organisms from the mother's vagina and bowel, and to a lesser extent the surrounding environment. Newborns delivered by cesarean section do not get a healthy dose of mother's bacteria and as a result are more likely to harbor more anaerobic forms of unhealthy bacteria. Furthermore, the hygienic conditions of the hospital may prevent the complete transfer of bacteria to the abdominally delivered infant. After birth, microbes are transferred by touching, suckling, kissing, and caressing.

Breast feeding encourages the growth of friendly bacteria known as *Bifidobacterium*, which protect the baby from gastrointestinal infections that can result in illnesses requiring hospitalization and sometimes death. By the fourth day of life, *Bifidobacterium* represent 48% of the bacteria in breast fed infants as opposed to 15% in bottle fed infants (*J Perinat Med* 26:186, 1998). Eventually, over 95% of the bacteria become *Bifidobacterium* bacteria in an exclusively breast fed baby (*BMJ* 3:338, 1973). This is because breast milk contains significant amounts of undigestible sugars that provide food for the "friendly," *Bifidobacterium*. Introduction of small amounts of formula to a breast fed baby will result in shifts from a breast-fed to a formula-fed pattern of the microflora. After weaning from breast milk after the age of 2 years, the child's flora becomes similar to an adults.

Probiotics — Adding "Friendly" Bacteria and Yeast

Probiotics are supplements sold as

The microflora normally presents a barrier to invading organisms, but disease-causing pathogens can become established when the integrity of the microflora is impaired.

foods and pills that contain millions of friendly bacteria, and sometimes yeast. The best known and most popular probiotics are yogurts containing lactic acid-producing bacteria, called *Lactobacillus*. These organisms are non-toxic and survive passage through the intestine. However, since they do not colonize the colon they must be ingested regularly for any health promoting properties to persist. I do not recommend yogurt as a source of friendly bacteria because their beneficial effects have not been conclusively proven (*Am J Clin Nutr* 69:1035S, 1999). More importantly, yogurt has all the negative qualities of dairy products: high in fat and cholesterol, allergy producing dairy proteins, and it is often infected with harmful viruses and bacteria. You can buy supplement pills and liquids containing these bacteria and avoid the dairy products.

Probiotics can be purchased in the natural foods stores — they are usually found in the refrigerated section. Probiotics contain various combinations of "friendly" bacteria, from species of *Lactobacilli*, *Streptococci*, and *Bifidobacterium*. Some are labeled as "newborn formulas" and others are sold for improving the flora of a child or adult.

Prebiotics and Synbiotics

Prebiotics are nondigestible food ingredients that stimulate the growth and activity of "friendly" bacteria already present in your intestine. They are the preferred foods of "friendly" bacteria. The most effective prebiotics identified are FOS (fructooligosaccharides). Other effective growth enhancers are GOS (galactooligosaccharides), inulin (not insulin), lactulose, and lactitol. These are small carbohydrates that are found naturally in artichokes, onions, chicory, garlic, leeks, and to a lesser extent, cereals. These simple prebiotic molecules are also produced industrially and a number of commercial products are sold on the market. They have no toxic effects. They can act

as a mild laxative in small amounts, and may produce flatulence when consumed in large amounts. Prebiotics of FOS are already increasing the number of *Bifidobacterium* at a dose of 2.75 grams/day and the effect lasts for 7 days (*Br J Nutr* 80:S197, 1998). In studies of people, 15 grams/day of FOS increased *Bifidobacterium* 10-fold while reducing "unfriendly" bacteria, such as *clostridia* (*Bifidobacteria and Microflora* 5:37, 1986). Beans, peas, and lentils also contain nondigestible sugars, raffinose and stachyose, that feed bacteria. Their digestion by bowel bacteria produces the notorious flatus.

Combining probiotics (bacteria) with prebiotics (the bacteria's food) results in a logical partnership, called synbiotics. You will most often find synbiotic products sold as mixtures of bacteria with FOS.

Benefits of a Healthy Gut Microflora

Controlling Intestinal Infections

The microflora normally presents a barrier to invading organisms, but disease-causing pathogens can become established when the integrity of the microflora is impaired. Manipulating the microflora with probiotics and prebiotics will cause "friendly" bacteria to grow and crowd out pathogens that cause illness. Many "friendly" bacteria secrete antibiotic substances that are active against harmful organisms. *Lactobacillus acidophilus* supplements given to bottle fed babies were found to improve their weight gain (*J Pediatr* 41:395, 1952). Better and faster recovery from acute diarrheal diseases has been seen with the addition of various species of *Lactobacillus* (*Pediatrics* 88:90, 1991; *J Pediatr Gastroenterol Nutr* 21:125, 1995; *J Pediatr* 84:261, 1974). Feeding probiotics to children has been shown to reduce the episodes of diarrhea during hospitalization (*Lancet* 344:1046, 1994).

Preventing Cancer:

"Friendly" bacteria protect us from cancer in many ways. They have the ability to bind and deactivate cancer-causing substances in our foods. For example, living or dead *Lactobacilli* absorb cancer causing chemicals known as pyrolysates that are produced by cooking meat at a high temperature. These chemicals are deactivated when

absorbed into the bacteria's cell walls (*J Dairy Sci* 73:2702, 1990). "Friendly" bacteria also actively degrade cancer-causing substances, like N-nitrosamines (*Appl Microbiol* 29:7, 1975). Bifidobacteria produce antitumor substances that cause the human white cells (macrophages) to destroy growing tumor cells (*Bifidobacteria and Microflora* 13:65, 1994). A vegetarian diet decreases excretion of bile acids and the intestinal bacterial metabolism of these acids into cancer causing substances. A meat based diet causes bacteria to grow that make animal proteins into neutral sterols that are associated with an increased risk of colorectal cancer (*Scand J Gastroenterol* 23:277, 1988). Research shows that a change from a mixed diet to a vegetarian diet leads to a decrease in certain enzyme (beta-glucuronidase, beta-glucosidase, and sulphatase) activity known to increase the risk for colon cancer in three months (*Nutr Cancer* 14:239, 1990). Overall, by many mechanisms, a healthy gut microflora from a vegetarian diet, prebiotic and/or probiotics reduce your risk of cancer (*Am J Clin Nutr* 63:709, 1996, *Br J Nutr* 80:S219, 1998).

Reducing Excess Sex Hormones

A high-fat, low-fiber diet, causes overgrowth of bacteria in the gut microflora that have the ability to convert bile acids into sex hormones, which are then absorbed through the gut wall and into the blood stream (*Lancet* 2:472, 1971). Bile acids are produced by the liver for the purpose of digesting fats. The more fat consumed, the more bile acids flow into the intestine to be converted to sex hormones. Thus a low-fat, vegetarian diet will reduce sex hormones.

The intestinal microflora play a key role in circulating estrogens in a woman's body by deconjugating (freeing up) bound estrogens that appear in the bile, thereby permitting the free hormones to be reabsorbed by the intestine, back into the woman's body, causing elevated hormone levels. (*Rev Infect Dis* 6(suppl 1):S85, 1984; *N Engl J Med* 307:1542, 1982). The same effects occur in men, raising testosterone levels. Problems from excess sex hormones include: precocious puberty, fibrocystic breast disease, PMS, uterine fibroids, prostate enlargement, and breast, uterine, and prostate cancer. By changing the microflora with a low-fat, high-fiber diet and/or probiotics and prebiotics, more estrogen is excreted

in the feces, resulting in less estrogen in the body and sex-hormone related problems are prevented and improved (often cured). (See the *McDougall Program for Women* for more details.)

A high-fiber, plant-based diet promotes the growth and/or the activity of bacterial populations in the microflora responsible for equol production (*Proc Soc Exp Biol Med* 217:335, 1998). Probiotic and prebiotics would be expected to have the same effects on the microflora. Equol is a phytoestrogen produced from the soy isoflavone daidzein by gut microflora. As a weak estrogen, it decreases the adverse effects of stronger estrogens made by a woman's body, and later in life it may provide estrogen-like benefits, such as a reduced risk for osteoporosis (*Eur J Clin Nutr* 52:850, 1998).

Enhancing Immunity:

Probiotic organisms interact with the immune system at many levels, including enhancing the production of antibodies, activating the white blood cells (macrophages) to eat bacteria and cancer cells, and preventing adherence of pathogenic bacteria to our cells. Inflammation of the colon has been decreased by probiotics given to elderly people and they have shown improvement in the function of their immune system (*Immunopharmacol Immunotoxicol* 14:331, 1992). Cow's milk allergy and eczema have been improved in children taking probiotics (*J Allergy Clin Immunol* 99:179, 1997). A pure vegetarian (vegan) diet has been shown to change the fecal microflora in patients with rheumatoid arthritis, and these changes are associated with improvement in the disease activity (*Br J Rheumatol* 1997 36:64, 1997).

Lowering Cholesterol:

The fermentation products made by the gut microflora reduce the synthesis of cholesterol and triglycerides by the liver and thereby can reduce their blood levels (*Adv Exp Med Biol* 427:211, 1997; *Br J Nutr* 80:S225, 1998). The evidence for these benefits is so far confined to animal studies.

Everyone should foster the growth of a healthy microflora by eating right and avoiding antibiotics whenever possible.

Evidence Indicates that the Use of Probiotics Can:

- Reduce symptoms of lactose malabsorption
- Increase the natural resistance of infections from bacteria, yeast, and viruses
- Prevent traveler's diarrhea
- Speed healing from diarrheal diseases and relapsing colitis
- Improve digestion
- Relieve constipation
- Stimulate the immune system of the gastrointestinal tract
- Benefit inflammatory arthritis
- Suppress cancer development and growth
- Reduce sex hormones
- Reduce cholesterol and triglycerides
- Restore the intestinal flora after antibiotic use

(*J Appl Bacteriol* 66:365, 1989; *Biotherapy* 8:126, 1995; *Lancet* 2:1519, 1987; *J Pediatr Gastroenterol Nutr* 21:125, 1995; *J Pediatr* 84:261, 1974; *J Nutr* 125:1401, 1995; *BMJ* 318:999, 1999; *J Dairy Sci* 78:1597, 1995).

Who Should Alter Gut Bacteria

Everyone should foster the growth of a healthy microflora by eating right and avoiding antibiotics, whenever possible. A breast milk diet for infants, and a healthy vegetarian diet for children and adults are the foundation for acquiring and maintaining a healthy gut microflora by providing the correct remnants of undigested food for "friendly" helpful bacteria. Newborns who were delivered by cesarean section, as well as bottle-fed babies, need to have their microflora properly established and maintained shortly after birth. You will find probiotics specifically designed for infant use in the refrigerated section of your natural foods stores.

Use of antibiotics is a clear indication for the use of microflora replacements and enhancers — probiotics and prebiotics. You also should consider their use if there are areas of your health that still need improvement even though you are eating a healthy diet, such

as bowel dysfunction (constipation or diarrhea), indigestion, or elevated cholesterol or triglycerides. This is an easy decision to make, since there are no adverse effects from the use of probiotics, prebiotics, and synbiotics. Be a careful observer; look for real benefits, and continue them only if they really work for you, because they are costly. The claims that probiotics have cholesterol-lowering and anti-tumour actions are based on animal experiments and require further investigation. Some of the proposed benefits, such as improvement in the immune system and reduction in risk of infection are hard to evaluate. Many of the claims for health benefits you might hear in the health food store are understudied and still unproven, even though the theories have some scientific research support and their use sounds reasonable.

News You Can Really Use
Recent significant findings you
deserve to know

Echinacea Doesn't Work?

A randomized controlled trial of the effect of fluid extract of *Echinacea purpurea* on the incidence and severity of colds and respiratory infections by Wolfram Grimm in the February 1999 issue of the *American Journal of Medicine* studied 109 patients and found only a small decrease in the percent of people suffering from colds (60% vs. 74%), number of colds (.78 vs .93), and duration of sickness (4.5 vs 6.5 days). However, none of the results were significant, so the authors declared the herb no better than placebo (106:138).

JM: At the turn of the century, Echinacea was the best-selling medicinal plant in America; its use decreased after the introduction of antibiotics. This herb has been found to stimulate the immune system, thus it is believed to help prevent and treat common infections, including colds and other upper and lower respiratory infections. Two previous controlled studies have shown Echinacea reduced the severity and duration of colds, and respiratory infections of viral and bacterial origin. Side effects from this treatment are almost nonexistent. Even though the data did not reach statistical significance, the trend for improvement was definitely shown in this experiment.

So next cold season I will be taking my Echinacea and increasing the dose at the first hint I'm coming down with something. How about you?

Grains for a Longer Life

Is whole grain associated with reduced total and cause-specific death rates in older women? The Iowa Women's Health Study, published in the March 1999 issue of the *American Journal of Public Health* by David Jacobs found a lower risk of dying for women who consumed whole grains and a higher risk for those who consumed refined grain products (89:322). Risk of dying from cancer, heart disease, and overall death risk was improved for those who ate whole grains.

JM: Whole grains are filled with nutrients in their natural condition. Stripping the outer coat of a grain to make white flour and white rice removes fiber, essential fats, vitamins and minerals — all necessary for good health. Adding these back as vitamin and mineral supplements is not the same because they are then in unbalanced quantities and removed from the normal environment of the whole food — the whole is much greater than the parts. Unfortunately, the largest change in terms of consumption of energy in the US diet since the 1900's has been the reduction in grain intake from 36% in 1909 to 1919, declined to 18% in 1970, and increased to 23% in 1990. Reduction in whole grains consumed has been even greater, with the almost universal acceptance of white bread and rice by the American family. You, however, always knew it: whole grains can help you have a longer and healthier life.

Partial Hysterectomies Are Back

Supercervical hysterectomy: Back to the future? by D.E Darnell Jones in the March 1999 issue of the *American Journal of Obstetrics and Gynecology* supported the return of a partial hysterectomy which leaves the cervix in place, rather than a total hysterectomy (180:513). Because at the turn of the century, the risk of death was twice as great for a total hysterectomy, this operation was reserved for only those patients who absolutely needed to have their cervix removed. By the middle of

this century, with reduced operative risks, total hysterectomy became fashionable with little scientific rational supporting its almost universal use.

The primary rational doctors give today for this extensive surgery is to prevent cervical cancer. However, screening with routine Pap smears effectively prevents cervical cancer. Consider this: Carcinoma of the cervix occurs in less than 1 in 1000 women who have had a partial hysterectomy. Vaginal cancer occurs more commonly than this, yet as the authors point out "no one recommends a routine vaginectomy with a hysterectomy." There are many advantages to leaving the cervix: less operative risks, less chance of bladder, bowel, and sexual dysfunction, and less risk of infection.

JM: The Male-dominated medical business has a well-deserved reputation for being insensitive to women when it comes to their medical care. Preserving your cervix, if you do need a hysterectomy, is an important choice you should insist on, whenever possible. (See the *McDougall Program for Women, Chapter 10*, for a detailed discussion of hysterectomies.)

Prostate Cancer Detection Is Just Luck

Early detection of prostate cancer —serendipity strikes again by Mary McNaughton Collins in the November 1997 issue of the *Journal of the American Medical Association* found that serendipity may be responsible for finding one quarter of tumors detected by digital rectal exam and one quarter of PSA detected tumors (278:1516). The detection of a cancer by chance alone is referred to as serendipity. "If the prostate cancers likely to be detected by serendipity are eliminated from the calculations, the predictive value of DRE (digital rectal exam) decreases by 28% and the true predictive value of PSA screening would be reduced by 25% relative to recently published estimates."

JM: Autopsy studies reveal 30% of men over the age of 50 have prostate cancer. Therefore, biopsy of the prostate gland is likely to find a cancer regardless of whether or not the PSA or the DRE examination is positive or negative. Thus, more small tumors are being detected that otherwise would not have been found. If these small tumors do not threaten a man's

life, then men are being too aggressively treated for these small tumors.

Tumors less than a cubic centimeter in volume are too small to cause an elevation of PSA levels. Over 25% of all tumors found are less than 1 cm³ and therefore undetectable by PSA. Small tumors are also usually missed by DRE. If small tumors are important then doctors are missing too many.

The truth is prostate cancers fall into two broad categories. Those that are destined to spread because of their aggressive nature. (Unfortunately, these tumors have already spread by the time of diagnosis, so local treatment is too late.) And those never destined to spread, so these never need treatment. Only in retrospect can you tell which kind a patient has. The bottom line is that no studies have shown aggressive treatment, like surgery and/or radiation, prolong lives over doing nothing at all.

Vitamin A Causes Weak Bones

Excessive dietary intake of vitamin A is associated with reduced bone mineral density and increased risk for hip fracture by Hakan Melhus in the November 1998 issue of the *Annals of Internal Medicine* found the vitamin A form, known as retinol, increases the risk of osteoporotic related hip fractures (129:770). People in Northern Europe consume on the average 6 times more retinol than those in Southern Europe, and also have 7 times more hip fractures. Animal studies have shown high intakes of retinol accelerate bone loss, bone fragility, and spontaneous fractures. For every 1 mg daily increase in intake of vitamin A, the risk of hip fracture increased by 67%.

JM: So where do you get retinol from? This is the form of vitamin A found in many vitamin supplements, cod liver oil, fortified milk and other dairy products. Because animals make retinol from the plant precursor of vitamin A, known as beta carotene, unfortified dairy products and meat and fish (especially the livers) also contain significant amounts of this potentially toxic vitamin. Margarines are commonly fortified with vitamin A.

A previous study by these same authors found the more calcium consumed by people, the more hip fractures they suffered (*Int J*

Epidemiol 24:771, 1994). The connection may be the retinol in dairy foods. This may account for the high rates of hip fractures in the United States, Norway, and Sweden.

The plant precursor of vitamin A, beta carotene is never toxic even when ingested in large amounts. However, retinol can cause birth defects, bone damage, and other serious changes.

Animal protein is the major factor in the cause of osteoporosis. Populations that consume large amounts of vitamin A also consume large quantities of animal protein. Worldwide, the more animal protein consumed the more hip fractures. In opposition to the dairy industry's advertisements, the truth is the more calcium consumed by the people in a country, the more hip fractures. The least that can be said from this observation is calcium intake, and specifically dairy products, do not protect from the dietary factors that really do cause osteoporosis, like animal protein and retinol.

More Water, Less Bladder Cancer

Fluid intake and the risk of bladder cancer in men in the May 1999 issue of the *New England Journal of Medicine* by Dominique Michaud found the more the fluid intake, the less the risk of bladder cancer (340:1390). The risk was decreased by 7% for each increment of 8 ounces of daily fluid intake. Overall, high intake of fluids may reduce the risk by 50%. Water and all other fluids combined lowered the risk. The benefits are believed derived from the dilution of cancer-causing chemicals collected in the bladder, and reducing the contact time of these chemicals through increased frequency of urination.

JM: There are 310,000 new cases of bladder cancer diagnosed worldwide annually. In the US this is the fourth leading type of cancer in men. Several sources of cancer causing substances are suspected, for example, products of cigarette smoke combustion and chlorine in drinking water. Coffee and alcohol intake have also been associated with more bladder cancer, while fruit and vegetable consumption is associated with less bladder cancer. One more possible benefit from more fluid intake is less risk of kidney stones and there are no

adverse effects from drinking more water (*Am J Epidemiol* 143:240, 1996). So, you will benefit from increasing your fluid intake above what your thirst drive seems to require.

Birth Defects From Organic Solvents

Pregnancy outcome following gestational exposure to organic solvents — A prospective controlled study by Sohail Khattak in the March 24/31, 1999 issue of the *Journal of the American Medical Association* found an increased risk of major deformities in children born to women exposed to organic solvents at levels sufficiently high enough to cause symptoms (281:1106). Women who reported symptoms from exposure had 13 times greater risk of having a child with malformations. There also was found twice the risk of miscarriage, almost 3 times as much fetal distress and 3 times the likelihood having a low birth weight baby among woman working with these substances.

The malformations included: major heart deformities, deafness, clubfoot, neurotube defects (spina bifida), penis abnormalities, deformities of the larynx, and hernia.

The most common occupations for exposure were factory workers, laboratory technicians, professional artists, graphic designers, and printing industry workers.

The substances most commonly contacted were aliphatic and aromatic hydrocarbons, phenols, trichloroethylene, xylenes, vinyl chloride, acetone, and related compounds.

JM: The authors suggest "it is prudent to minimize women's exposure to organic solvents during pregnancy." This is too weak a stand against an identified cause of serious birth defects. All efforts must be taken by women of reproductive age to avoid contact with these substances (you may become pregnant when you least expect). If you work near such chemicals and become pregnant you should be immediately moved to a place where you will not be exposed. You also need to go through your household cleaning supplies to identify those containing organic solvents, and avoid these too. Considering the toxicity of these substances, everyone should use extreme caution to avoid contamination.

GRILLED VEGETABLE KABOBS

The dressing for basting these kabobs can be varied with any other fat free dressing of your choice. There are many excellent Teriyaki and Garlic marinades available in most supermarkets. The vegetables may also be varied as you choose.

Preparation Time: 20 minutes

Cooking Time: 10-15 minutes

Servings: 6-8

- 2 zucchini, cut in 3/4 inch slices
- 2 yellow summer squash, cut in 3/4 inch slices
- 1 pound mushrooms, trimmed and left whole (unless they are very large)
- 1 Japanese eggplant, cut in 3/4 inch slices
- 1 green bell pepper, cut in 1 inch pieces
- 1 red bell pepper, cut in 1 inch pieces
- 1 sweet onion, cut in wedges
- 1 pint large cherry tomatoes
- 1 cup fat free honey-Dijon salad dressing

Heat grill to medium.

Alternately thread vegetables onto skewers. Brush with some of the dressing and grill for 10-15 minutes, turning and basting with dressing every few minutes. Serve with cooked rice or pasta.

SPRING ONION SOUP

Preparation Time: 15 minutes

Cooking Time: 45 minutes

Servings: 6

- 1/2 cup water
- 3 cups sliced spring onions, white and light green part only (see hint)
- 6 cups vegetable broth
- 2 tablespoons soy sauce
- 1/2 tablespoon parsley flakes
- 1/4 teaspoon sage
- 1/4 teaspoon oregano
- 1/8 teaspoon white pepper
- 1 cup chopped green onions, white and green parts
- several dashes Tabasco sauce

Place water and spring onions in a medium soup pot. Cook, stirring frequently, until onions are very soft, about 10 minutes. Add more water if necessary to keep them from sticking. Add broth, soy sauce, parsley, sage, oregano and white pepper. Bring to a boil, reduce heat, cover and simmer for 30 minutes. Add green onions and cook for 5 minutes. Add Tabasco to taste. Serve at once.



Hint: Spring onions are available late spring and early summer in most farmer's markets and many natural food stores, or if you are fortunate enough to have your own garden you can harvest them throughout the growing season. They have a long stem similar to a green onion with an enlarged bulb of about 1-1/2 inches on the end. If you are unable to find them, leeks may be substituted. I like to serve this with a basket of whole wheat croutons so each diner can spoon into their soup as many croutons as they'd like. To make the croutons, just cut some whole wheat bread into chunks, place them on a baking sheet, and toast in the oven until crisp.

SAN JOSE SALAD

This was inspired by a wonderful salad I enjoyed in the airport in San Jose, Costa Rica last summer. I wrote down the ingredients of the salad on the back of my ticket folder and now I can enjoy this refreshing salad at home.

Preparation Time: 15 minutes
Servings: 4

- 1 16 ounce bag shredded cabbage
- 1/2 cup thinly sliced cucumbers
- 1/2 cup thinly sliced radishes
- 1/2 cup shredded carrots
- 2 stalks celery, chopped
- 1/4 cup chopped celery leaves
- 1/2 cup oil-free vinaigrette dressing

Combine all of the vegetables in a large bowl. Pour dressing over and toss to mix. Serve at once or refrigerate for later use.

BAJA DINNER SALAD

This is a wonderful complete meal salad for hot summer days when you don't want to spend much time cooking.

Preparation Time: 15 minutes
Servings: 2-3

- 1 15 ounce can pinto beans, drained and rinsed
- 1 tomato, chopped

- 1 medium red bell pepper, thinly sliced in 1 inch strips
- 1 small avocado, peeled and chunked
- 2 green onions, chopped
- 1/2 cup mild or medium salsa
- 2 tablespoons chopped cilantro
- 1 10 ounce bag salad greens

Combine all ingredients, except greens, in a bowl. Mix well. Place greens in a large bowl. Add the vegetable mixture and toss to mix. Serve at once.

COSTA RICAN PAPAS Y FRIJOL

Preparation Time: 30 minutes

Cooking Time: 30 minutes

Servings: 4

- 1/2 cup water
- 1 onion, chopped
- 1/2 teaspoon bottled minced garlic
- 1 jalapeno pepper, seeded and minced
- 2 1/2 cups chopped tomatoes (see hint)
- 1/4 cup packed, finely chopped cilantro
- several twists of freshly ground pepper
- 4 cups packed, chopped greens (chard, spinach, kale, etc.)
- 3 cups chunked cooked potatoes (see hint)
- 1 15 ounce can black beans, drained and rinsed
- dash or two of hot pepper sauce (optional)

Place the water in a large nonstick frying pan. Add onion, garlic and jalapeno. Cook, stirring occasionally, until onion is very soft, about 10 minutes. Add a little more water if necessary to keep onion from sticking to the pan. Add tomatoes, cilantro and pepper. Cook, uncovered, stirring occasionally, for 15 minutes.

Meanwhile, drop the chosen greens into boiling water and cook until softened, from 2-5 minutes, depending on kind of greens used. Drain and set aside.

Add potatoes and beans to the cooked tomato mixture. Cook and stir for 3 minutes. Stir in greens and cook for an additional 2 minutes. Add hot pepper sauce to taste.

Hint: Use a combination of red, yellow and orange tomatoes when available. For the potatoes, I like to use tiny new potatoes that I cook whole with the skins on. Cool slightly and then cut into quarters. This is delicious hot or cold.

BULLETIN BOARD

McDougall TV on TBN

Look up your TBN in your TV, satellite or cable guide. Beginning Monday June 7 "McDougall, M.D." will be on Trinity Broadcasting Network (only until July 7) Mondays at 4 PM (PST), 7 PM (EST), and again on Wednesdays at 8:30 AM (PST), 11:30 AM (EST). If you like the show, write or call TBN and encourage them to keep us on the air.

E-mail: comments@tbn.org

Write: Trinity Broadcasting Network, P.O.Box A, Santa Ana, CA 92711.
Phone: (714) 832-2950

McDougall's Right Foods

Dr. McDougall's tasty instant vegetarian cuisine is now available in food stores and supermarkets in many locations throughout the country. They also may be ordered by mail and sent factory direct to you - call the toll-free line at 1-800-367-3844 to order or to receive the new Dr. McDougall's Right Foods Color catalog. Also look for them in your favorite store or ask your store manager to carry these healthy vegetarian instant meals.

Dr. McDougall's Right Foods
101 Utah Avenue
South San Francisco, CA 94080
(650) 635-6000 • FAX (650) 635-6010
Toll-Free Ordering (800) 367-3844
On the Web: <http://www.rightfoods.com>



4 New Instant Cup Meals

From Dr. McDougall's Right Foods

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- Mashed Potatoes -Country Garden Style
- Oatmeal and Barley with Real Peaches and Raspberries
- Oatmeal and Barley with Real Bananas and Maple

These new meals can be found in your local supermarket or order by:

FAX (650) 635-6010

Phone: (800) 367-3844

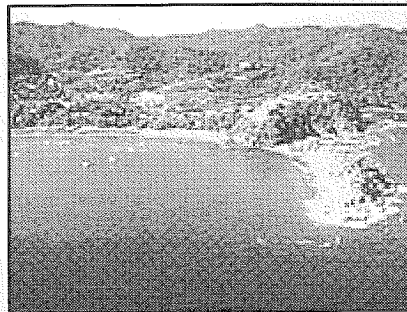
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8-day Costa Rica Adventure



July 31 to August 8, 1999

We're leaving July 31 for El Ocotal, a paradise on the northwest coast of Costa Rica. El Ocotal beach resort is a small, luxurious hideaway where people relax and enjoy the marvels of the Pacific Ocean with summer weather all year round. We have rented the entire hotel so the food will be excellent, low-fat, no-cholesterol, prepared McDougall-style. You will meet people and make friends with others who are interested in good living and good health. And you will get to see up close one of the most exotic countries in the world from land and the sea.

Everyday El Ocotal's covered, dual inboard, ocean going, boats will be available to take guests on tours to surrounding isolated beaches and islands, where you are likely to see porpoises, turtles and sea birds. SCUBA and snorkeling tours have been planned to some of the most renowned sea life habitats in the world. (I saw my first whale shark in these waters. He's vegetarian.) Our own naturalists will guide us to the national parks, wildlife reserves, nearby towns, and other points of interest. In addition there will be local guided tours to beaches and the countryside. You will have an intimate experience with Costa Rica and its people as few tourists ever have done.

The total cost is \$1350 per person (without airfare). The price of the trip is all inclusive. This means all activities, adventures, boat trips, SCUBA and snorkeling trips, meals, alcoholic and nonalcoholic beverages, and transfers are included. Call (800) 570-1654 or (707) 576-1654.

We are in the process of choosing destinations for next year. Presently we are looking at a cruise down the Amazon, a hotel based trip to Peru and Bolivia, and another hotel trip to El Ocotal Costa Rica. Are you interested in any of these? Do you have any ideas on where you might like to go? Please call, write or e-mail us with your thoughts.

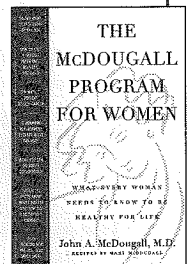
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The McDougall Program for Women

Available now from the McDougall Health Clinic Office (800) 570-1654 and in bookstores. Price: \$29.95 plus S&H.

This timely book deals with:

- The mystery of women's diseases--it's not in her genes;
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- Breast feeding: changing a child's future for the better;
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- Ten changes you can make to prevent breast cancer;
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Hawaii Seminar

On Sunday, July 11, there will be a half day seminar in Honolulu by John and Mary McDougall. Please call (800) 570-1654 for information and reservations.

Upcoming McDougall Programs at St. Helena Hospital

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