



The McDougall Newsletter

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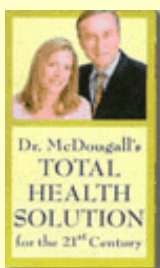


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October 2002 Vol. 1 No. 10

Straining for Relief – Damage Everywhere

This article continues a series exploring the health of your intestinal tract. Consider the strongest contact with the world around you is through your food, processed and absorbed by your intestine.

Out of the Mouths of Babes

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Are You a Sickly Vegetarian (Vegan)?

You will often hear respectable dietitians and nutritionists warn that only well-planned vegetarian diets can be healthy. They talk about the importance of careful planning so you get all of your protein, essential amino acids, calcium, zinc, omega-3 fats, and/or vitamin B12 by consulting a registered dietitian. Fortunately, if you follow my simple recommendations, which are to base your diet around unrefined starches with the addition of fresh or frozen fruits and vegetables (with the addition of supplemental B12 after 3 years or if pregnant or nursing) you cannot fail to achieve excellent nutrition.

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Acrylamide – Do Carbohydrates Cause Cancer?

Recent headlines have suggested that eating cooked carbohydrates (starchy vegetables) can raise your risk of cancer. This is the first time a cancer-causing substance has been found in our staple foods. More specifically, carbohydrates, such as fried potatoes, potato chips, some types of breakfast cereals and baked goods contain a high level of a powerful cancer causing substance called acrylamide.

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Teach Your Unborn Healthy Foods

Flavors from a mother's diet during pregnancy and from her breast milk are transferred to her infant and the baby learns to like these foods. An experiment reported in the journal *Pediatrics* fed pregnant women and breast-feeding women carrot juice and compared their infants to infants of women who did not consume carrot juice. When the children were, on average, 6-months-old they fed them carrot juice and noted their responses.

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Heather McDougall with a degree in English and a love for cooking, especially with her mother, will be a frequent contributor to the newsletter. We invite you to contribute your thoughts and recipes to the McDougall Newsletter also. Write heather@drmcDougall.com

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Straining for Relief – Damage Everywhere

Out of the Mouths of Babes

Many years ago on one summer evening when our daughter was 10 and our oldest son was nine, we were enjoying a peaceful dinner when Heather asked, “Is there something wrong with Jodi?” Heather and Patrick had spent the previous night at their best friends’ home, Jodi and Mark. Heather continued, “When Jodi is in the bathroom I hear these strange noises, like she is in horrible pain.” She then made a long painful grunting sound to demonstrate. Patrick interjected, “Mark makes the same noises and he’s in there forever.” My children had never had to experience the Herculean exertion most people require to move their bowels. In fact, for them this daily process was accomplished effortlessly and in seconds – back out to play before the ball stops bouncing.

Almost 30 years ago, as a general practitioner in a small rural community on the Big Island of Hawaii, I had a chance to learn all about the personal bowel habits of my patients. The most upsetting stories were about the suffering children. Mothers often brought them to see me because of lower abdominal pains and bleeding – blood on the toilet tissue or frank blood in the toilet bowl. After detailed questioning, the concerned mothers told me about the straining efforts their children experienced with each bowel movement, every two to five days. No connection was ever made between the child’s diet and this severe constipation. Nor by patients, and nor by their concerned doctors, is there ever any connection made between this constipation and diseases in other parts of the body.

The Fiber Man – Denis Burkitt

All of my formal medical-school education focused on describing and treating the signs and symptoms of chronic illness, rather than on really important matters – cause and cure. A turning point in my life came in the autumn of 1971, when I was a senior medical student. During a noontime hospital conference I met the first doctor to tell me there were causes for the common chronic diseases. Dr. Denis Burkitt was visiting the Kellogg cereal company in Battle Creek, Michigan; trying to convince them to add more dietary fiber to their products. He believed the lack of fiber in our diet was at the root of our common chronic diseases.

Dr. Burkitt, born in Ireland in 1911, became a surgeon at Edinburgh’s Royal College of Surgeons in 1938, and was assigned to work for the colonial Medical Services in Uganda, Africa in 1946.¹ He served as the Government Surgeon of Uganda from 1946 to 1964. Here he discovered a cancer of the immune system,

which carries his name – Burkitt's lymphoma.

In Uganda, Burkitt made many important observations about his African patients. For example, they produce several times more quantity of feces than people on the highly refined, high meat Western diet. He noticed their feces were soft and passed without pain and attributed this to the high fiber content of their foods. Westerners have 3 to 21 bowel movements a week and the amount of stool passed is 85 to 150 grams/day (3 to 5 ounces). Africans have 30 to 60 movements a week with a stool weight of 200 to 500 grams a day (7 to 17 ounces). Most importantly, he noticed that the diseases he had been trained to treat in Scotland were absent among Africans. He saw no cases of type II diabetes, obesity, appendicitis, diverticular disease, hemorrhoids, dental caries, varicose veins, pulmonary embolism, inflammatory bowel diseases (Crohn's disease and ulcerative colitis) or hiatus hernia. The only heart attack he saw was in a judge who had trained in London, developed a taste for roast beef and Yorkshire pudding, and then returned to Africa. "In 20 years of surgery in Africa, I had to remove exactly one gallstone," Dr. Burkitt claimed.

I remember only one slide from this "medical-student, mind-changing" lecture. On one side of the slide was pictured a large hospital building with a small bowel movement next to it; and in the adjacent frame was a small hospital with a large stool. The message was clear – those populations who eat a diet high in fiber have big bowel movements and few illnesses. Denis Burkitt set out in the mid-1960s to tell the world how important it was to add fiber back to your diet. He became known as "The Fiber Man." In retrospect, his focus was too narrow – simply sprinkling bran over bacon and eggs will not solve the health problems of Western man.

Historically, similar changes in disease patterns, as seen in Africa, have been seen as the diets of people in England, the United States, and most recently Japan, have switched to processed foods and animal products.²⁻⁴ There are many more important qualities to the plant-based diet of Africans than the fact that it was high in dietary fiber. The African diet has been traditionally a diet based on grains, legumes, vegetable and fruits – his patients ate very little meat, dairy products or refined foods. This means the diet was very low in animal protein, fat and cholesterol, and high in complex carbohydrates, dietary fiber, and healthful phytochemicals.⁵⁻⁶ All these ingredients go together to define a healthy human diet – like that of Burkitt's patients (and by no coincidence, The McDougall Diet).

In last month's newsletter I explained that fiber, which is only found in plant foods, is mostly non-digestible carbohydrate, which passes through the small intestine intact to become the bulk of the stool. The fiber pulls in water to further expand the volume of the stool. Americans eat very little fiber because their meals are made of mostly fiber-free animal products and refined grains. The result is tiny rock-hard fecal marbles – and so begins health problems throughout the body. The following diseases are found commonly in populations of people who consume a "rich" diet, and are essentially unknown in people, who, like Dr. Burkitt's Africans, consume a diet based on unrefined plant foods.

Appendicitis:

The contents of the small intestine empty into the large intestine. The first part of the large intestine is called the cecum (located in the right lower part of the abdominal cavity). A small pouch or diverticulum, called the

appendix, is attached to the cecum. When the opening of the appendix becomes blocked, fluids accumulate. These stagnant fluids become infected creating a disease condition common to Westerners, called appendicitis.

The cause of this blockage is unhealthy remnants of partially digested foods, which irritate the opening of the appendix. The observation that appendicitis is unknown in populations of people who eat a plant-based diet must be surprising (and maybe disappointing) to surgeons trained, like Dr. Burkitt, to treat this common condition in Westerners.⁷⁻⁹ The incidence of appendicitis is increasing among Africans as their diet changes.¹⁰

Diverticular Disease:

In Western societies, diverticulosis occurs in at least one person in two over the age of 50 years. The frequency increases with age. Denis Burkitt, practicing in Uganda, and doctors taking care of similar populations of people, never see this condition among the natives.^{11,12}

As the food moves through the small intestine the nutrients – protein, fats, carbohydrates, vitamins, and minerals – are absorbed through the intestinal wall into the bloodstream. Left behind are non-digestible matters (dietary fibers), colon bacteria and a few dead cells – these materials soon become the stool. Movement from the right side of the large intestine to the left side is accomplished by rhythmic contractions, known as peristalsis.

According to a law of physics (Laplace's Law), the pressure within a cylindrical structure with a given wall tension increases with decreasing radius.¹³ In other words, contractions at small diameters cause high pressures. The remnants of digestion on the Western diet produce only a small mass, and therefore, high pressures.¹⁴ Years of elevated pressures produce ruptures in the walls of the intestine, making balloons, called diverticula.

Blood supply of the intestine begins on the outer surface, and then these small vessels dive through the muscular wall to supply the inner surfaces of the intestine. The weakest part of the wall of the intestine is where the blood vessels pass through the wall. As a result, the most common locations of these diverticula are next to blood vessels. Not surprisingly, one of the most common symptoms of this disease is bleeding. I have seen the bleeding so severe that the only way to save the person's life was to surgically remove the bleeding portion of the intestine.

When the diverticula become irritated by the unhealthy remnants of digested food in the large intestine the openings can close, allowing the fluids to become stagnant and infected – a condition known as diverticulitis. This disease is sometimes referred to as “left-sided appendicitis,” (remember the real appendix is located in the right lower part of the abdomen), and is usually treated with antibiotics.

A change to a high fiber diet will greatly reduce the risk of future bleeding and infection – in other words, people with diverticular disease have much less trouble after they change to a healthy, high fiber, plant-based diet.¹⁵ However, the diverticula do not disappear with a change in diet.

The Final Act – Defecation

Matter is further digested and water is removed during the movement from the right to left colon. In the final few inches of the large intestine, called the rectum, the feces accumulate. With adequate filling the rectum becomes distended, causing reflex contractions, which initiate the evacuation of the stool into the outside world – properly referred to as a bowel movement. Unfortunately, life is not so simple for those who make tiny rock-hard fecal marbles. These little guys simply do not provide adequate filling to stimulate the rectum. Plus, because of their slow passage almost all of the water has been removed and they become dry and hard, thus more difficult to pass. To get them out requires enormous effort and harmful straining.

Picture a person seated on the toilet – grunting and groaning. The face is flushed red from blood pushed up into the head and neck. This is not the only direction blood is forced by straining. Blood diverted under pressure into all other body parts causes structural damage. After many years all this translates into diseases suffered by the majority of people living on the Western diet.

Hemorrhoids:

Diets low in fiber cause hemorrhoids by creating high pressure in the veins found in the very last part of the large intestine, the anus.^{16,17} A ring of internal veins, the hemorrhoidal veins, provide a compressible lining which allows the anus to completely close – sealing the intestine closed – allowing us to act sociably by preventing release of gasses and stool at inappropriate times and places.

Straining to pass the small stools causes retrograde pressures in the hemorrhoidal veins, dilating them. Eventually, after years of straining they are permanently enlarged and commonly hang out of the end of the anus. Later stages of hemorrhoid development include the displacement of the anal muscles toward the outside. Hemorrhoids located higher up are called internal hemorrhoids; the lower ones are called external hemorrhoids, the latter are commonly the painful ones.

Since these are structural changes caused by physical forces they can be expected to be permanent. Surgery can counter some of this damage with removal of some of the stretched-out tissue – a hemorrhoidectomy. Surgeries include sclerotherapy (injection with a caustic substance), photocoagulation, rubber band ligation, cryotherapy (freezing) and cutting with a knife and laser. Laser surgery is no less painful and is more expensive.¹⁸

Surgery should be reserved for those who fail to find comfort from less drastic means – like topical cleansing and creams, and most importantly, better food choices. The main symptoms from hemorrhoids are itching, pain, and bleeding. Sitting in a warm bath (a sitz bath) can provide much relief. A change to a healthy plant-based diet will do wonders – the itching, pain, and bleeding usually stop.

You may wonder why other forms of straining such as lifting or straining to deliver a baby don't cause permanent dilation of the hemorrhoid veins. In all forms of straining, except those associated with bowel movements, there is a reflex contraction of the anal muscles (sphincter), and this compensates for the raised

pressures in these veins.¹

Although hemorrhoids may have been rare in rural Africa before modernization of the diet, that is not the case today. Approximately one-fifth of modern black Africans now have these dilated veins – a direct result of their switch to a modern diet.¹⁹

Varicose Veins:

Straining to push out small stools causes great retrograde pressures into the veins of the legs. This pressure is even higher and more damaging because of our custom of sitting to defecate on high-seated toilets. If you have traveled to less developed countries, you may have been shocked to find their toilets are simply holes flush with the ground. To relieve yourself, you squat. This position bends the legs at the hips and knees cutting off the veins and preventing pressures created by straining from being transmitted down into the leg veins – thus protecting them.

Notice that when you are standing, the distance from the feet to your heart is about four to five feet. A column of blood this tall would place tremendous pressures due to the weight of the blood on the veins in the lower leg and feet. To prevent this, the large veins in the legs have valves that shut closed to prevent flow of the blood in the direction of the feet. When we walk the muscles in the legs contract, pushing blood past open valves towards the heart. However, the valves are one way, preventing the blood from falling back down toward the feet.

When a person strains to move those stubborn fecal marbles, the high pressures dilate the leg veins and stretch out the valves. After years of such damaging forces, the valves become distorted and incompetent – producing those well-recognized “blue worms,” that we call varicose veins.^{16,19}

Varicose veins occur elsewhere: Varicose veins in the scrotum of men are called varicoceles. In women, this dilation of veins can occur in their vulva and around their ovaries.

Hiatus Hernia:

The action of defecation raises the pressures in the abdominal cavity above those that are in the chest. The result is that the contents of the abdomen are pushed up into the chest. The chest and the abdomen are separated anatomically by a large muscle used for breathing, called the diaphragm. Three structures pass through the diaphragm – the aorta, vena cava and esophagus. Only the esophagus is moveable. Straining pushes the stomach into the natural opening for the esophagus causing the muscular opening to dilate. A dilated muscle is known as a hernia. This condition is called a hiatus (or hiatal) hernia.²¹⁻²² Eventually the top portion of the stomach may actually sit in the chest cavity. Each breath creates negative pressures in the chest that draw acid up into the esophagus. With the stomach out of its natural position, the sphincter (lower esophageal sphincter) that functions to close the opening between the esophagus and stomach when we are not swallowing becomes incompetent. The result is acids from the stomach can reflux into the esophagus and up into the mouth and lungs causing esophagitis, loss of dental enamel, sinusitis, and asthma (see the February 2002 McDougall Newsletter). This condition is referred to as Gastroesophageal Reflux Disease

(GERD).

Surgical repair can move the stomach back into the abdominal cavity and close the hernia. However, this operation should be reserved for those who cannot find relief from a healthy diet, raising the head of their bed and/or antacids.

Other Possible Conditions from Straining:

I believe the following conditions are also due to straining to defecate: prolapse of the female uterus, spermatocele (dilation of the spermatic cord), cystocele (prolapse of the female bladder), and rectocele (prolapse of the rectum).

Treatment of Damaged Tissues:

Unfortunately, the conditions that are caused by straining are not returned to normal with a change in diet. But diet will relieve most of the problems associated with diverticulosis (bleeding and infection), hemorrhoids (bleeding, pain and itching) and hiatus hernia (heartburn). Surgery for these conditions and the others discussed (diverticulosis, varicose veins, and prolapsed uterus) should be reserved for those who cannot find relief with less drastic measures. I would expect that changing to a healthy high-fiber, plant-food based diet will slow the progression of all these conditions, preventing them from becoming worse.

Rather than wonder why so much disease is caused by the simple act of moving your bowels, you should marvel at the strength of your body to withstand these tissue-wrenching forces for so many years. Today would be a great day to start reducing the wear and tear on your body – you will be amazed by how quickly it responds.

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Are You a Sickly Vegetarian (Vegan)?

You will often hear respectable dietitians and nutritionists warn that only well-planned vegetarian diets can be healthy. They talk about the importance of careful planning so you get all of your protein, essential amino acids, calcium, zinc, omega-3 fats, and/or vitamin B12 by consulting a registered dietitian. Fortunately, if you follow my simple recommendations, which are to base your diet around unrefined starches with the addition of fresh or frozen fruits and vegetables (with the addition of supplemental B12 after 3 years or if pregnant or nursing) you cannot fail to achieve excellent nutrition. Coincidentally, this is also a pure vegetarian diet; commonly known as a vegan diet – with no animal products of any kind. But being vegan does not necessarily mean good health.

In 1977, I had the opportunity to become friends with my first vegan. Jeff served as an intern for me during our medical residency program in Hawaii. He was very strict with his principles, mainly because of his concern for the welfare of animals. Most people love animals and are abhorred when they hear of incidences of abuse. But few of these same caring people ever make the connection between the cows, chickens, pigs and fish on their plates and animal suffering.

Jeff was the purest of all vegans; he even wore nylon belts and plastic shoes in order to avoid leather products. Unfortunately, there was one animal he abused at every meal – the human animal, himself. His main sources of calories were Cokes and potato chips. This self-neglect showed – Jeff was overweight and greasy-skinned. My point is being a vegan often does not equate to good health. Let me tell you about four different kinds of vegans that are examples of poor health. (I have called these “boys,” but you can substitute “girls.”)

Doughboys:

Do you remember snitching raw cookie dough when your mother was baking? She told you that you would get worms from eating it. I don't think that's true, but I know all that white flour, sugar and shortening isn't good for you – at the very least it can lead to obesity and poor health. There are high-fat and low-fat doughboys.

The *high-fat doughboy* loves vegan cookies and cakes. I was just sent a vegan cheesecake that was almost worth dying for (almost). Not a speck of any animal in these pure desserts, but they are made of sugar, flour

and oil. They taste like the real thing – so soft, smooth, and chewy. The results in terms of health are almost like the “real thing” too.

The *low-fat doughboys* think they have the true path to good health – “If it is low-fat it must be health food.” As a result of this widespread belief, SnackWell’s Cookies and Entenmann’s Cakes are national best sellers (even though these 2 items are not vegan, there are some low-fat vegan cookies that fit this category). Unfortunately, these sugar and flour land mines are an extra 350 guilt-free calories daily added to an already overstuffed diet. These low-fat vegan foods are one of the reasons obesity is now affecting one-third of our population.

Lastly, there are those *wino doughboys*. They consume 600 to 1000 calories a night of no-cholesterol, very low-fat wine or other alcoholic beverage. These are mostly “empty calories” with almost no protein, vitamins, minerals, fats or fiber. Alcohol acts much like sugar in the body. These vegetarians will often admit that they have one glass of wine with dinner – but undoubtedly this is a 32 ounce glass they are drinking from.

Soy Boys:

In the summer of 1997 our McDougall Adventure took place on a small cruise ship on the Pacific coast of Costa Rica. For our first evening meal we had a picnic on the beach. As a transition meal to help some of our passengers adjust from a McDonald’s/Burger King diet we served soy burgers and soy hot dogs, (as well as healthy grain based burgers). After dinner a young man approached me, complaining he was feeling ill and did not think he could continue the trip. He gave me his history of liver failure caused by hepatitis from IV drug abuse several years before. I explained that the high protein content of the soy burgers and dogs was the culprit. His failing liver could not process all that protein. For the rest of the trip I helped him choose his foods, and he was so pleased that he told me that was the best he had felt in four years.

Soybeans are high fat (40%) and high protein (30%). When they are turned into “fake animal products” like soy burgers, hot dogs, luncheon meats, and pepperoni, their soy protein content can become as high as 70% of the calories. Soy yogurts and ice creams are high in fat and sugar, and soy cheeses are high fat. In addition, all of these foods have had the healthful carbohydrates, dietary fiber, vitamins and minerals processed out of them. These are not real foods anymore but synthetic analogs.

People who base their diet on these “fake meats” suffer from deficiencies (fiber, vitamins, potassium, carbohydrates), and excesses (fats, proteins, and sodium) of nutrients. Plus the proteins are phytochemicals that have pharmacological activities – like estrogen activity, and immune and thyroid gland suppression (See the September 2002 Newsletter at www.drmcDougall.com). Commonly, soy boys are fat and sickly. What would you expect from synthetic food?

Greasy Boys:

Hardly a day goes by that someone fails to tell me the benefits of olive oil or flaxseed oil. They tell me that there are no essential omega-3 fats in many plant foods and as a result they have to consume these concentrated oils to stay alive. I sometimes hear these added oils also prevent heart disease, cancer, and

hair loss. They even say they need oil to “oil” their joints. Fortunately, all the oil you need, including the essential omega-3 oils, is in the basic plant foods – starches, vegetables and fruits. In fact, only plants can synthesize these essential oils – and all plants do so in amounts sufficient to provide for our needs. When these oils are consumed in the plant part (leaf, root, stem, fruit, etc.) they are combined with other stabilizing and protective substances, such as antioxidants, vitamins, minerals, fibers, phytate and other phytochemicals -- that allow the oils to work properly and safely within your body.

There are no “free” oils in nature. All olive, corn, flaxseed, and safflower oil must be processed from their native fruit or seed before being poured into the bottle. This processing leaves behind the protective ingredients. Now the oils are medicines at best, and toxic at worst. Plus all that fat makes people fat and ends up on their hair and skin making them look greasy. (You can read much more about vegetable oils on my web site www.drmcDougall.com, under “Vegetable Fat as Medicine.”)

Raw Boys:

Recently we spoke at a Christian-oriented women’s health conference, where the underlying belief of the event’s promoters was the best diet is one of mostly raw foods. The idea was that cooking destroys the nutritional value of the foods. There is always a little truth in every message – cooking does this, but the minor loss is unimportant, because of the overabundance of nutrients in plant foods.

Strict “raw fooders” avoid all cooked food. So what’s left to eat? You can’t eat raw rice, beans, soybeans, or wheat flour. Raw potatoes are possible to eat, but not too tasty. Some grains can be sprouted and they would fit the raw philosophy, but that might take planning days ahead of time. What is left for people who say they eat a raw food diet is sugar (fruits and juices) and fat (nuts, seeds, and avocados). The result is that people easily gain weight.

Then there are a few purists, who really do eat mostly healthy green and yellow vegetables – broccoli, cauliflower, pea pods, lettuce, and sprouts; and fruits. However, when this is their diet, they soon become very thin from lack of calories. Few people can maintain themselves on foods which are so dilute in calories, so in order to survive comfortably they pour oil all over their salads. The result is a high fat diet – with a large proportion of free oils. Then instead of being thin, they are fat and greasy skinned.

A Well-Planned Vegan Diet:

There must be a diet for people which allows us to look, feel and function our best. A diet where the foods match perfectly the size of the stomach, our hunger drive, and our activity level. So that when we exercise more, our hunger drive increases and we correctly take in the right number of calories to meet those increased energy needs – and our weight stays at the same ideal level. Our Creator would not have been so unkind or so incompetent to fail to make us right, so that our environment properly supports us.

The problem we face, as you may have learned in Bible school, is we have choices. The wrong choices in foods make everything wrong: More to the point, we become fat and sick when we satisfy our natural hunger drive. However, the right choices make life easy. The diet intended for people is a properly designed vegan

diet – centered on delicious starches with fruits and vegetables.

Does it have to be pure vegan to maintain excellent health?

No. The human body is a tower of strength, putting up with unthinkable abuses, like two packages of cigarettes, a half bottle of whiskey, and a fat-sugar filled diet – and it lives. So obviously, most people can tolerate a small amount of rich foods, like ice cream on their birthday, candy on Halloween, eggs on Easter, turkey on Thanksgiving and/or ham on Christmas. But consuming these feast foods every day makes people look and feel like aristocrats – the kings and queens of olden times – and we all know what they looked like! And more importantly, you should know what is the best – the most ideal diet for your good health – and then choose where you will take your risks, so you will be in control of your future.



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Acrylamide – Do Carbohydrates Cause Cancer?

Recent headlines have suggested that eating cooked carbohydrates (starchy vegetables) can raise your risk of cancer. This is the first time a cancer-causing substance has been found in our staple foods. More specifically, carbohydrates, such as fried potatoes, potato chips, some types of breakfast cereals and baked goods contain a high level of a powerful cancer causing substance called acrylamide. Heating the amino acid asparagine with sugars at temperatures above 185 degrees centigrade (365 F) produces this unwanted substance. The minimal temperature to cause this conversion is 120 degrees centigrade, with temperatures of 140 to 180 degrees centigrade (284 to 356 F) optimal for the formation. Acrylamide cannot be detected in unheated and boiled foods.¹ Therefore, frying, baking, and most likely, roasting and grilling are the cooking methods most likely to reach these high temperatures and be harmful.

The risk of acrylamide has only recently come to the attention of scientists and its discovery was accidental. Swedish tunnel workers exposed to large amounts of acrylamide from a water sealant in 1997 were studied and compared to unexposed people. The control group, who had not been exposed to acrylamide at work, showed evidence of unexpectedly high levels of acrylamide in their bodies. This caused investigators to look for other sources of this substance – and they have discovered it in their diet of overcooked foods. Acrylamide is a white, crystalline substance used in industry to produce dyes and to purify drinking water by removing particulate matters – it combines with solid materials making them more easily filtered out of the water. Cigarette smoke also contains acrylamide.

In large doses this substance can damage the nervous system and has been found to impair fertility. Acrylamide damages genetic material and induces the formation of tumors in rats following long-term administration. This cancer-causing substance tends to attack the thyroid gland, female breast tissues, male testicles, and mouth.² Investigation of populations of people has, so far, failed to confirm or disprove that this substance causes cancer. The WHO estimates the lifelong (70 years) risk of cancer from consuming 1 microgram a day is about 1 in 100,000.¹

So how do you protect yourself?

Don't eat fried or baked carbohydrates – like French fries and potato chips (duh!). Since high temperatures are required to make acrylamide, cooking at low temperatures will keep your starches, vegetables and fruits healthy and tasty. Cooking is an important part of food preparation – one reason is because heating breaks

down complex sugars to make sweet-tasting simple sugars – adding more flavors, and also causing browning of the food. Fortunately, you can keep your food from forming acrylamide by avoiding the overcooking and overheating of that food. There is a 10-fold difference in the amount of acrylamide between normal cooked and overcooked foods.² You will always be safe boiling and steaming foods because the temperature reached is only 100 degrees centigrade (212 F). Microwaving should also be safe, because of the low food temperatures reached – but more research needs to be done.

So far the official recommendations have been very general, but reassuring for those of us who eat a healthy vegetarian diet. The British government's Food Standards Agency recommends, "A healthy well-balanced diet, including plenty of fruits and vegetables, will help protect against some cancers." Experts reporting in the British Medical Journal recommend "a diet with plenty of fresh fruits and vegetables."

One reason this issue reached national headlines so quickly, and was misunderstood by many people to mean potatoes, corn, and other grains are unsafe to eat and "everything causes cancer so why should I bother," is *people love to hear good news about their bad habits*. Now I don't have to eat my vegetables – meat is no worse than potatoes. But that is simply not true – and believing so puts you at great risk for our common cancers and other health problems like heart disease, diabetes and obesity. Cooking meat has been recognized for decades to produce many very powerful cancer-causing substances including heterocyclic amines and polycyclic aromatic hydrocarbons (benzopyrene).³

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Teach Your Unborn Healthy Foods

Flavors from a mother's diet during pregnancy and from her breast milk are transferred to her infant and the baby learns to like these foods. An experiment reported in the journal *Pediatrics* fed pregnant women and breast-feeding women carrot juice and compared their infants to infants of women who did not consume carrot juice.¹ When the children were, on average, 6-months-old they fed them carrot juice and noted their responses. Infants exposed to carrot juice seemed to like carrot juice more than those who did not get these early learning experiences during pregnancy and breast-feeding. Flavors from foods appear in the amniotic fluid that the unborn infant floats in and in the mother's breast milk. Since tastes are learned throughout life it should not be surprising that this early exposure determines what a person will eventually enjoy in foods.

Women and young girls planning a family in the future need to begin thinking about their diet right now. The pesticides and other environmental contaminants they consume today are stored in their body fat and then released into their baby during pregnancy and breast-feeding. These chemicals can cause birth defects and miscarriages.²⁻³ During pregnancy, a mother's choice of calorie-dense foods, so easily obtained on the high-fat, high-sugar Western diet, can make the baby grow too large. As a result, the 8 to 14 pound newborns commonly seen these days are too big to fit through a birth canal designed for a 5 to 8 pound baby.⁴ Since they can't get out normally, they have to be taken by Cesarean section – this is the primary reason 25% of women deliver by this method.

Now, thanks to this new research we have another important reason for women to make healthy food choices. Mother's decisions at the dinner table while she is directly connected to her baby take on a life-long significance for the child's future health. What an easy way to teach a baby to like his carrots and peas – rather than chickens and pigs.

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Recipes

We serve delicious Asparagus Basil Soup at The McDougall Program in Santa Rosa, CA. There are a couple of ways to prepare this soup, one of them takes much less time and is just as delicious, although the asparagus flavor may be more pronounced in the one that takes more time. Both versions follow:

ASPARAGUS BASIL SOUP

Preparation Time: 30 minutes

Cooking Time: 60 minutes

Servings: 4

5 cups water

3 cups chopped asparagus

1 cup chopped onion

2-4 cloves garlic

1 teaspoon thyme

2 potatoes, chopped

1 bunch fresh basil, chopped

Place the water in a large pot, add asparagus, onion, garlic, and thyme. Bring to a boil, cover and cook for about 30 minutes, until asparagus is falling apart. Puree and return to pot. Add potatoes and cook until potatoes are soft, about 20 minutes longer. Puree, add basil, and simmer for 5 minutes. Season to taste.

QUICK ASPARAGUS BASIL SOUP

Preparation Time: 10 minutes

Cooking Time: 10 minutes

Servings: 4

2 cups vegetable broth

- 2 cups chopped asparagus stalks
- 1 ½ cups frozen chopped hash brown potatoes
- 1 cup water
- 1 cup asparagus tips
- 1 cup soy or rice milk
- ½ cup chopped fresh basil

Place the broth, asparagus stalks, and potatoes in a medium pan. Bring to a boil, reduce heat, cover and cook for 5 minutes, or until asparagus is just barely tender. Remove from heat and puree until smooth.

Meanwhile, place the water and asparagus tips in a small saucepan. Bring to a boil, reduce heat, and cook for 5 minutes. Drain and set aside. Add soy or rice milk to pureed soup, mix well. Add basil and heat through. Stir in asparagus tips. Adjust seasonings to taste and serve at once.

MORE WRAPS

In the September 2002 newsletter there were several recipes for wraps. Since that time we have enjoyed other wraps, usually because of something that was leftover from the night before. Wraps are a great way to use leftovers for lunches the next day or two. I also received an e-mail from Laurie on the East Coast telling me that she found a healthy lavash made in Massachusetts. She also mentioned a wrap idea that she enjoys, also by using leftovers from the day before. She used a leftover bean filling from tortillas (mashed kidney beans, jalapeno peppers, cayenne pepper, and garlic) and added coleslaw that had marinated a few days in apple cider vinegar and spices. Another wrap that we have really liked was made using Black Bean Chili, Avocado Salsa, and Tofu Sour Cream (newsletter recipes from June 2002) tossed with Chili Garlic Tofu Cubes (recipe follows) and folded into a whole wheat tortilla. E-mail us some of your favorite wrap ideas.

CHILI GARLIC TOFU CUBES

Preparation Time: 10 minutes

Cooking Time: 30 minutes

Servings: 4-6

- 1 pound firm tofu, cut into cubes
- ¼ cup vegetable broth
- 1 teaspoon chili powder
- 1 teaspoon lime juice
- ½ to 1 teaspoon Chili Garlic Sauce

Preheat oven to 350 degrees.

Mix the broth with the seasonings in a medium bowl. Add the tofu cubes and toss to mix. Place in a single layer in a non-stick-baking dish. Bake for 30 minutes, stirring occasionally.

Hint: Use as a condiment in various wraps. Chili Garlic Sauce is sold in many supermarkets in the ethnic section. It adds a wonderful spicy flavor to many dishes.

POWER LOAF

This recipe was created by Roberta Joiner of Santa Cruz, CA, who was a participant in the July 2002 McDougall Program in Santa Rosa, CA. Roberta is an excellent cook and she has been back to the program twice already to teach an alumni cooking class with much success. We look forward to having her with us in future programs.

Preparation Time: 15 minutes

Cooking Time: 50-55 minutes

Servings: makes 1 square baking pan

Dry Ingredients:

1 cup dried cranberries

1 cup whole wheat flour

½ cup fat free granola

½ cup unbleached white flour

½ cup chopped walnuts

1 teaspoon baking powder

Wet Ingredients:

2 bananas, mashed

2/3 cup applesauce

2/3 cup soymilk

2 teaspoons vanilla

Preheat oven to 350 degrees.

Combine dry ingredients in one bowl and beat wet ingredients together in another bowl. Mix briefly, just until moistened. Place in a square or round non-stick baking pan, smooth out the top, and bake for 50-55 minutes, until top is browned and toothpick inserted in center comes out clean.

Hint: This loaf may easily be varied by changing the ingredients used in the recipe. For example, to make a wheat-free loaf, use spelt flour instead of the whole wheat flour and brown rice flour instead of the unbleached white flour. Try raisins instead of the cranberries and/or rice milk instead of the soymilk. This may be cut into squares and frozen for later use, or cut into wedges and bag separately for a snack on the go.

Product Information: I make this in a round cake pan from SiliconeZone. It is a bright red, plastic non-stick baking dish that is flexible. It goes in the oven and is very easy to clean. When removing from the oven, let cool briefly (bakeware is cool to the touch in about 2 minutes) then invert while peeling away from the baked goods. SiliconeZone makes a variety of this red, non-stick, flexible bakeware: loaf pans, square baking dishes, muffin tins, baking trays, and small trifle pans to name a few. Watch for more recipes using this product over the next several months.



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