

THE Lassen Foundation Report

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to Kristin
from Pappy

Wishes

Whole Grains

Volume 1, Issue 1

HARVARD RESEARCH SUPPORTS USE OF WHOLE GRAINS

Merritt C. Horning, M.D., M.P.H.

Congratulations Harvard University! Harvard has blazed the road yet another mile through the deadly jungle of chronic diseases that terrorizes, disables and shortens the lives of aging Americans. Harvard has identified a list of refined grains that are associated with stroke (sweet rolls, pizza, cakes, pasta, desserts, white bread, English muffins, biscuits, waffles, pancakes, white rice, and refined breakfast cereals), along with a list of whole grains that have a protective barrier against stroke and other vascular diseases. Whole-grain foods include dark bread, whole-grain breakfast cereals, popcorn, oatmeal, wheat germ, brown rice, bran and other grains such as bulgur, kasha and couscous (*Harvard Heart Letter Vol. 12, No. 2, October 2001*).

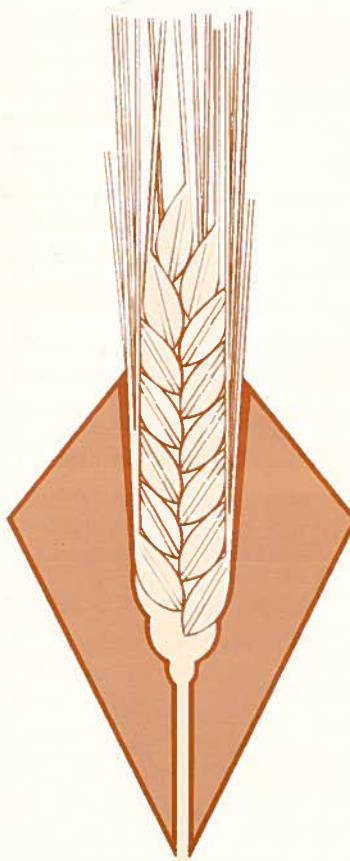
Whole grains lower stroke risks!

What a courageous advance Harvard has made in a culture grounded in the mythical notions that:

1. Chronic diseases are due to aging
2. We live in America a society of free choice - you eat, drink and indulge as you wish
3. Premature death is God calling his people home according to some clergy (Gordon, 1949).

However, there were a few individuals in the medical, scientific and ministerial communities that believed other wise.

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STRAIGHT TALK ABOUT STROKES

Important information about strokes has been released from Mayo Clinic and Harvard Medical Center.

Annually in the United States, about 750,000 Americans have a stroke. It is the leading cause of long-term disability in America and the third most common cause of death, killing about 160,000 Americans annually (*Mayo Clinic Health Letter, February 2002*).

Clotting, constriction or rupturing of an artery can cause a stroke. This in turn results in the brain tissues being deprived of oxygen and other vital nutrients. About 80 percent of strokes are due to reduced blood flow in an artery leading to the brain (Ischemic strokes) (*Mayo Clinic Health Letter, February 2002*).

Atherosclerosis is a disease of the arteries that often leads to reduced blood flow. In atherosclerosis, cholesterol-containing fatty deposits (plaque) build up over time on the inside of artery walls. These accumulations narrow, harden and roughen the inside surface of the arteries.

A stroke occurs when blood flow to brain tissue is somehow blocked. It can happen in one of three ways:

1. Thrombotic stroke occurs when a blood clot (thrombus) forms in an area of atherosclerosis (hardening or narrowing of the artery)
2. Hemorrhagic stroke occurs when

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Dr. Semmelweis, in 1847, believed that simple hand washing by physicians and medical students would decrease the death rates of women in the hospitals during and after delivering their babies. The death rates of mothers giving birth decreased by as much as 90%. However, the medical community did not appreciate Dr. Semmelweis's work and dismissed him from the hospital staff.

Then **Dr. Lister** applied a similar concept to surgery. Proper handwashing and the sterilizing of instruments made surgery safer from infections. It took **Dr. Luis Pasteur** an entire lifetime to convince the world that the germs were real and the cause of epidemics.

According to **John Harvey Kellogg**, M.D., LL.D., F.A.C.S. (1927), *essential nutrients are not equally distributed throughout the seed (grains)*. The center of the kernel is mostly made up of carbohydrates and protein. The vitamins and mineral salts are located beneath the outer covering of the seed.

Dr. Kellogg states, *"it is plain that if seeds are to be used as food the whole seed must be employed.... Ignorance of this fact has resulted in the death of many thousands of persons annually in rice-eating countries"*.

During the past two hundred years we have come to enjoy the most advanced health care delivery system the world has ever known.

The Health Care advances of the 19th and 20th Century were largely a delivered service. The challenge of the 21st Century is the most difficult. It will depend on what people do for themselves. Since WWII, population (epidemiological) studies have correlated diabetes, heart disease, and stroke with diet, lack of exercise, stress, illicit drugs, genetic factors and the way people live. Diet, exercise, stress management, illicit drugs are collectively referred to as lifestyle and involve personal responsibility.

The 21st Century lifestyle challenge for health cannot be met without group support. Churches, industry, civic groups, and educational groups can best support personal responsibility.

- **Church** groups have a profound influence on a large portion of the general population. Leaders of the churches can influence their congregations in lifestyles as well as moral laws.

- **Industries** can provide health information to their employees and support the healthy lifestyle decisions of the work forces that make their industries possible.

- **Civic** groups can provide health information to those who provide and participate in civic functions.

- **Educational** groups, particularly those trained in health and wellness, can expand sports to include "lifetime" exercise programs. Trained Health Educators can provide information on how to enjoy a full life of service free of chronic degenerative disease. We must know what we have power to control and what we don't. While we cannot control genetics and some environmental factors, we can control our personal lifestyle to a great degree.

Since ancient times, whole grains have been a dominant human food because they contain a life-supporting balance of protein (amino acids), fats, fiber, carbohydrates, vitamins, antioxidants, and phytochemicals.

Food manufacturers, under the pressure of a money-driven industrialized society, did the progressive refining of grains during the past two hundred years. The objective was to increase the shelf life, texture and palatability of grains. Although grain refining extended the shelf life from days to years, it took away a significant portion of the vital nutrients.

While many studies around the world have demonstrated the life-giving capacity of whole grains and the disease-producing power of refined grains, Harvard has correlated it with an epidemiological study which consisted of 75,521 participants over a 12-year period.

Whole grains will not save the nation's health unless they are part of a balanced lifestyle. Lifestyle factors or health indicators that serve as a roadmap for improving health for individuals, families, and communities are:

- Diet - 5 or more servings of fresh fruit and vegetables and legumes daily
- Exercise (physical activity)
- Stress management
- Clean air and Pure water
- Personal responsibility for medical and dental care including regular health assessments
- Elimination of tobacco, alcohol or illicit drugs
- Proper weight control (HEALTHY PEOPLE 2010) (*Adapted*)

This roadmap will increase the quality and quantity of life for both individuals and communities.

Following World War II, the World Health Organization, along with Dr. Ancil Keys, clearly correlated cholesterol and a high fat diet with heart disease. Using this information, Nathan Pritikan of the Longevity Center in Santa Barbara created a new diet for patients suffering from chronic diseases. He reduced the average fat in American diets from 45% to 10%, and replaced the fats with complex carbohydrates. His diet was 10% fat, 15% protein and 75% complex carbohydrates, and added a three-times-per-day exercise program (*Unpublished Research, 1972*).

Major portions of his high-complex carbohydrate diet were PASTAS. These lacked the nutritional value of whole grains since these are made with refined flour.

In 1972 at the age of 57, the editor of this newsletter developed severe angina. A University cardiac center doctor provided two choices: bypass now or death in two years. They were both rejected, and the Pritikan diet and exercise program with its refined pasta was started. This gave complete relief from the angina, and the participant returned to his previous level of activity including work and advanced snow and water skiing.

After 28 years, the angina suddenly returned. In September 2000, at the age of 85 a 5-way bypass surgery was successfully completed. One year after surgery, recovery appeared to be somewhat slow. The participant was still unable to get off blood pressure medications and cholesterol-lowering drugs.

After reading the whole grain section of the October Issue of the Harvard heart Letter, whole grains replaced all refined grains including pastas, and a three-times-per-day exercise program was reinstated. After 30 days, both the blood pressure medications and the cholesterol-lowering medications were discontinued because they were no longer necessary.

The genetic potential of man is 110-120 years, especially now that the great principals of health no longer languish in obscurity. Healthy, functioning years of service can be available to each human if he or she will take personal responsibility for the healthy function of all body systems, which are interrelated. **The future health destiny of each human is determined by what he/she does now.**

Lassen Recommends For Optimum Health

- Find sources of whole grains with higher nutritional values.
- Grind your own whole grains at home.
- Use coarsely ground grains.
- Use ground grains immediately or store for a short period.

Sources for whole grains with higher nutritional values must be found and made available to families in every community. These are challenges the Lassen Foundation wants to help you meet. Please write us with your problems, needs and successes.

It is critical that both the individual and the community do their part to increase life expectancy and improve the quality of life. The Lassen Foundation's purpose is to help individuals gain the knowledge, motivation

WHOLE GRAIN RESOURCES

HARVESTIME

1252 Pellier Drive
San Jose, CA 95121
Phone: (408) 365-8800
FAX: (408) 365-8301

PARADISE NATURAL FOODS

5729 Almond Street
Paradise, CA 95969
Phone: (530) 877-5164

ABUNDANT LIFE NATURAL FOODS

578 E. Sierra Street
Portola, CA 96122
Phone: (530) 832-1642

HARVEST BAKERY

1223 Mangrove Ave.
Chico, CA 95926
Phone: (530) 899-7273
Fax: (530) 899-0863

WHEAT MONTANA FARMS & BAKERY

10778 Highway 287
Three Forks, MT 59752
Phone: (800) 535-2798

MILLER'S BAKERY

Freshly - Milled Organic Grains
Oroville, CA 95965
Phone: (530) 532-6384
FAX: (530) 532-6384

GRAINS FROM DAN & MICKY THOMAS

4870 6th Ave. North
Karlsruhe, North Dakota 68744

ALVARADO ST. BAKERY

500 Martin Ave.
Rohnert park, CA 94928
Phone: 707 - 585 - 3293

We **CAN** control our future health by assuming responsibility and making right choices now. With the proper vision, we **CAN** achieve our long-term health goals.

We are grateful to Harvard University for identifying the tragic defect in refined grains and the protective value of whole grains in preventing strokes.

and opportunities they need to make informed decisions about their health.

Yale University's Howard W. Haggard, M.D., in his book *Devils, Drugs and Doctors* (1929) states "treatment now merely attempts to overcome what should have been prevented".

The challenge of the 21st century is to promote lifestyles that will facilitate the prevention of strokes, heart diseases, diabetes, obesity, mental disease and cancer. This challenge is greater than Pasteur's germ theory. It will require a new combined effort of the entire community including churches, business, labor, educators and civic organizations working together with the health care delivery system to gain more years of productive disease free life.

It isn't enough to know these facts; people must be motivated to put them into practice.



PROCESSING WHOLE GRAINS

The protein in white and refined flour is about the same as in whole grain flour. The issue comes when the processing of the wheat for refined flour takes place. Vitamins, minerals, fiber and phytochemicals are decreased. Only a small portion is replaced in the enrichment program. These lost nutrients are necessary for metabolic processes and digestion to take place.

Bread, the most common form of grain consumed, has been designated as the "staff of life," and rightly so, since it contains more nutrients per weight than meat, milk, potatoes, fruits and vegetables (*Campbell, Hauser, Hill, No Date*).

YOUR HEALTH AND WHOLE GRAINS

"Miserable Trash"

In 1837, Sylvester Graham, a Presbyterian minister, wrote a pamphlet entitled "Bread Making". In it, he referred to the refined flour bread of his day as "the most miserable trash that can be imagined." The flour of the early 1800's, however, was far less refined than today's flour.

Milling Changes

Until the early 19th century, most flour was ground at home or at a local miller's and obtained periodically. In the 1920's, new advanced roller mills allowed millers to separate wheat into components. By removing the wheat germ, the wheat germ oil, and the bran, millers found that they could store the remaining flour almost indefinitely and ship it long distances.

The removed germ and bran from the whole grain was now sold as "food supplements" to animal food manufacturers, health food companies, and pharmaceutical companies, which greatly increased revenues.

Health Problems Begin

This tremendous advance in technology was correlated with the problem of increased cases of beriberi and pellagra, diseases resulting from vitamin B deficiencies. Researchers discovered that the new milling processes removed:

- An average of 66% of the B vitamins
- An average of 70% of all minerals
- 79% of the fiber

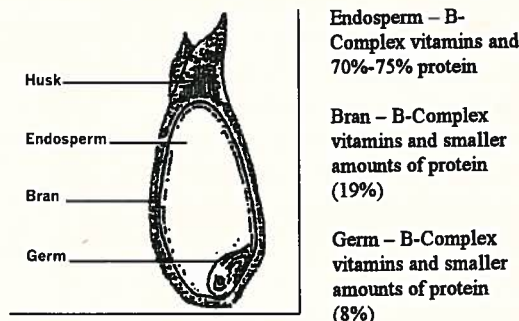
In the 1940's, a flour enrichment program was instituted; however, the vitamins and minerals do not equal the quality of the original product. Factors such as phytochemicals, fiber, and other life-giving nutrients are not added back (Campbell, Hauser, Hill, no date).

Today's Misleading Labels

Flour 'enrichment' implies a loss of nutrients and should not be equated with wholesomeness.

Both flour and bread labeled whole wheat do not need to contain the entire wheat kernel. They may be labeled as "whole wheat" as long as wheat is the only grain contained in either the flour or the bread. So even in most 'whole wheat' products, there can be a great amount of nutrient loss.

The wheat kernel is divided into three main categories showing the sources of nutrients as follows:



(WHEAT FLOUR INSTITUTE, 1964).

Milling Process

Stone grinding of grains dates back to the third century B.C. when rotary grindstones were powered by animals. The stone mill ground the grain slowly; thus the wheat germ was not exposed to excessive temperatures. Heat causes the fat from the germ portion to oxidize and become rancid more rapidly. Heat also destroys many of the vitamins. The stone ground flour is usually coarse, the nutritive losses due to oxygen exposure are limited, thus preventing rancidity.

Milling your own flour is a great way to be sure of freshness. A heavy-duty mixer with a mill attachment can be used. Freestanding mills are also widely available.

Storage

In order to reduce oxidation of essential compounds and the development of rancidity, it is recommended that fresh ground flour be stored for no more than one week.

"ACHIEVING A LONGER, HEALTHIER LIFE CAN BE YOURS BY GAINING KNOWLEDGE AND MAKING WISE DECISIONS."

Whole Grain/High Fiber Diets and Health

Dr. Dennis Burkett (1972), (Campbell, Hauser, Hill, No Date), a London physician, was a pioneer in the field of research, confirming the link between "killer diseases" and the lack of fiber in our diets. His studies demonstrated that in populations with diets high in whole grains, legumes, fruits, and vegetables there was a *low incidence of coronary artery disease, diverticular diseases, appendicitis, cancer of the colon, hiatal hernia, varicose veins, hemorrhoids, diabetes, obesity and constipation.*

Scientists now estimate that 40% of all *cancer* incidences in men and 60% in women are related to diet (*University of Berkeley, The Wellness Encyclopedia of Food & Nutrition 1992*).

COMPILED BY: LAURA PRILLER, Former Staff Librarian at Heritage Convalescent Hospital in Paradise, CA.

The Harvard Heart Letter shows whole grains lower stroke risks. In contrast, refined grains increase stroke risks. Grains have constituted a major portion of the diet of humans since antiquity. Now in industrialized times, we refine grains to increase their shelf life and enhance flavor and texture, but at the expense of the life-giving capacities (fiber, vitamins, minerals, phytochemicals and antioxidants) found in whole grains (Harvard Heart Letter Vol. 12, No. 2, October 2001).

There is abundant scientific literature showing that people who eat more fruits, vegetables and whole grain foods have a lower heart attack rate. But there has been little information on whether these foods help prevent stroke.

In a long-term study led by Harvard researchers in 1984, investigators asked 75,521 women to complete detailed diet questionnaires. None of these women had a history of stroke, heart disease or diabetes when they offered their food histories to the researchers (Harvard Heart Letter Vol. 12, No. 2, October 2001).

Measurements of their dietary intake of whole and refined grains were repeated in 1986, 1990 and 1994.

The Harvard study covered a period of over 12 years. The women who ate more whole-grain foods had a lower rate of stroke. The results were strongest among women who did not smoke, drink alcohol or take postmenopausal hormone replacement therapy, and among the women who did get regular exercise.

“This study offers further evidence that whole-grain foods can help keep your blood vessels healthy—whether in your heart or in your brain. Substituting these foods for refined grains is a good strategy for reducing your risk for stroke or heart attack (Journal of the American Medical Association, Vol. 284, No. 12, pp. 1534-40).”

Harvard University finds stroke associated with refined grains such as:

Sweet Rolls	Pizza	White Rice	English Muffins
Cakes	Pasta	Biscuits	Breakfast Cereals (Refined)
Desserts	Pancakes	Waffles	White Bread

Whole Grains found to protect against stroke:

Dark Bread	Kasha	Bulgur	Whole Grain Cereals
Popcorn	Oats	Couscous	
Wheat Germ	Bran	Brown Rice	

Harvard Heart Letter, October 2001 (adapted)

LASSEN REPORTS

In 1976, Lassen began a research program which culminated in the correlation of changes in plasma amino acid levels with various chronic diseases. These changes were the result of a 4-week program of a plant based diet and daily multi-dose exercise with stress management.

The 73 subjects with cardiovascular disease, obesity, diabetes and other chronic disease all showed significant improvement with changes in amino acid balances. Increases in threonine, serine, glycine, and arginine with decreases in valine, leucine, phenylalanine, tyrosine, histidine, and lowered lysine/arginine ratio marked these chronic disease improvements. The publication of these results in *Nutrition Reports International* brought over 200 letters of commendation from around the world. (COPIES AVAILABLE ON REQUEST.) These amino acid changes were correlated with changes in cholesterol, total fats, LDL and HDL in an additional article also published in *NRI*.

Why Wheat Works Best

An important battle in the war against disease may be whole-grain wheat. While it has long been believed that wheat's fiber content might prevent cancer, new research shows that wheat contains powerful antioxidants that strongly contribute to the prevention of colon cancer, and possibly diabetes and heart disease. These antioxidants are found in wheat's orthophenols, and orthophenols survive the baking process.—KANSAS STATE UNIVERSITY.

an artery in the brain leaks or ruptures

3. Another common form of stroke occurs when a clot, or a small piece of plaque formed in one of the arteries, is swept through the bloodstream to arteries in the brain. (Harvard Health Letter, November 2001).

Healthy People 2010, a study by the U.S. Department of Health and Human Service, reports that the risk factors for heart disease and stroke develop early in life:

- Atherosclerosis is already present in older teens
- Diabetes in overweight children is on the rise
- Early teens are already exhibiting hypertension (p. 12-7).

The authors go on to say that in heart disease and stroke, “screening for risk factors, particularly for high blood pressure and high blood cholesterol, is an important step in identifying individuals whose risk factors may be undiagnosed” (p. 12-7). Obesity is also identified as one of the factors in increased risk of stroke (p. 12-8).

In 1994-96, the average daily intake of grain products was approximately seven servings. However, the “consumption of whole-grain products remained very low. Only about 14 to 15 percent of grain servings were whole grain” (pp. 19-22, 19-25).

Healthy People 2010 lists lifestyle changes beyond diet that can be instituted to promote better health: do not smoke, or use illicit drugs, increase your physical activity, take personal responsibility for your health, practice stress management and maintain a healthy weight. Those who are overweight, it points out, are at increased risk of stroke (pp. 12-7, 12-10). The Lassen Foundation also recommends avoidance of alcohol.

Medical care alone will not eliminate the impact of chronic disease. We need to become a thinking population that actively promotes responsible health habits and the adoption of lifestyles that are maximally conducive to good health.

You can control your future health by what you do now.



The Lassen Foundation has been supporting innovative research and higher education for over four decades. Now, Lassen Foundation brings you *The Lassen Report*, filled with information that can be immediately put to use to improve the quality of life of our readers.

From its formation, The Lassen Foundation has closely followed its founding objective: To make a significant and continuing contribution to the life sciences. Its program is motivated by the kind of drive and energy reminiscent of Peter Lassen, the 19th century explorer for whom the foundation was named. Peter Lassen was widely known for scouting and developing new territory in Northern California and for giving help and leadership to the settlers of the Sacramento Valley during the early 1800's.

It is the desire of the Lassen Foundation to exemplify Peter Lassen's spirit of bold inquiry and to explore new frontiers in the search for knowledge. By applying innovative research and effective education to problems of world health, the Foundation hopes to prolong and enhance the quality of life.

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ADDRESS CORRECTION REQUESTED



"... if all women consumed at least 1 serving of whole grain foods, total mortality rates might be reduced, through a variety of mechanisms, by 8% or more.

We believe that these findings on whole grain intake have important public health implications; namely, it would be prudent for the general population to increase its whole grain intake."

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