

HELPFUL EATING TIPS

- **Rule of 1/3s** (“Zone Diet,” Barry Sears): “on 1/3 of the plate you put some low-fat protein (like fish or chicken) that is no bigger than the palm of your hand”...and fill the remaining 2/3s of the plate with vegetables or fruit. In other words, vegetables and fruit are the cornerstone of the healthy diet and should make up the majority of calories.
- **Pay a little more now, pay a lot less later:** spend an extra 10% for healthier foods and take the time to exercise and plan and prepare healthy meals to **avoid thousands of dollars, wasted time, and suffering** associated with obesity, heart disease, diabetes, and cancer.
- **Read food label “Nutrition Facts” and “Ingredients:”** just because the package says it’s good doesn’t mean it is. Look out for the saturated fats, hidden sugars, excessive sodium, and “partially hydrogenated vegetable oils.”
- **Plan ahead:** prepare healthy food plans with small meals and plan healthy between-meal snacks to meet your needs during high stress or time-limited periods
- **Don’t keep foods in the house that you shouldn’t eat:** chips, soda, cookies, cakes, muffins, toaster pastries, crackers, sugary juices and cereals, unhealthy pre-packaged meals ARE ALL BEST KEPT OUT OF SIGHT, OUT OF REACH and OUT OF MIND!

TAKE HOME MESSAGES:

- Our major source of calories should be a **wide variety of vegetables** and fruits. Some **strive for five**, but remember that **nine is fine!**
- Eat more **seafood and beans**
- **Be aware** of the calories eaten and expended in each day
- Don’t eat packaged, processed, **sugary snack and junk** foods
- Know the difference between casual **appetite** and real **hunger**.

Awareness of a personal balance in expenditure and intake of energy lets each individual change their lifestyle to prevent and reverse obesity and maintain better health.

Prevention needs awareness of hidden imbalances in health that gradually develop into problems requiring expensive treatment.

Feedback information from bathroom scales, pedometers and friends helps us **modify our behavior** to prevent likely problems, just like radar signs, speedometers and fuel gages also help us modify our behavior.

Exercise is vital because it reduces a cause of heart disease and diabetes and prevents regain of weight lost by careful food choices.

Attitudes and Appetites often affect our behaviors beyond our intent.

MORGAN COUNTY MENUS (The Perfect Life-style)

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MORGAN COUNTY MENUS

21ST CENTURY NUTRITION

with

healthy eating

weight control

disease prevention

for

your life

your family

your community

by Matthew Hahn, M.D. and Bill Lands, Ph.D.

Special Edition for *FAST* Learning exhibit

at the 2010 Morgan County Fair

on how

PARADOXES PUZZLE PEOPLE

A VERY SHORT HISTORY OF NUTRITION AND WEIGHT CONTROL

Year 0 to 1940s (the thin years)

- Food was **scarce**: so people ate as much as possible when possible
- Food was mostly **unprocessed** and didn't keep long
- People were MUCH MORE **active**

1950s to present (the BIG years):

- Food became more **abundant** and highly **processed**
- People became more **sedentary**
- 1950: Vegetable oils rich in omega-6 were first marketed
- 1950s-1960s: **American Heart Association had 4 priorities**
 - Cut calories
 - Cut fat calories
 - Replace saturated fats with unsaturated fats
 - Eat some polyunsaturated fats
- 1970s-1980s: Food marketers made **FAT & CHOLESTEROL** be **PUBLIC ENEMY #1**: studies associated saturated fat with higher blood cholesterol and heart disease; marketers created belief that cholesterol in foods is bad and vegetable oil is good
 - Food marketers replaced butter with margarine rich in omega-6 and urged us to **NOT** eat eggs, red meat, butter and shrimp.
- 1990s-2000s:
 - **Super-sized servings (portion distortion)** became common
 - Fatty foods were replaced by low-fat/high-carb/high sugar foods (but total calories were ignored) and **people got fatter and diabetic**
 - USDA Food Pyramid of 1992 was based on many compromises, not the best evidence - and made no comment on calories!
 - (Atkins) Distorts the experience of the 1970s-1990s and blamed all weight gain on high-carb diet action on metabolism, neglecting the effect of appetite and calorie intake.
 - USDA Food Pyramid of 2005 made many compromises, omitted key evidence, but finally noted calories and individual differences

PRESENT: We have an epidemic of obesity, heart disease, stroke and diabetes - - all listed as **preventable** chronic diseases.

*This book tells how we can **prevent this epidemic by removing two primary dietary causes**: an imbalanced intake and expenditure of food energy plus an imbalance in omega-6 and omega-3 intake.*

Morgan County Menu is brought to you by:

The Morgan County Forum for Arts, Sciences and Technologies
The Morgan County Health Olympics

Morgan County Menu Paradoxes in Preventing the Preventable

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*Interactive, personal menu planning software, KIM-2, used for this booklet is on computers in the Morgan County Library and downloadable from the distance learning website <http://ods.od.nih.gov/eicosanoids/>

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Preventing the Preventable

Balancing Attitudes and Appetites

The Secret to Long Life and Good Health:

- *The average American* dies or suffers from one (or more) of only five basic problems: **obesity, heart disease, diabetes, respiratory disease, or cancer**
- All five health problems link to three preventable lifestyle issues: lack of exercise, poor eating habits, and smoking
- **THE SECRET TO LONG LIFE AND GOOD HEALTH IS DAILY EXERCISE, HEALTHY EATING, AND NOT SMOKING**
- We all know this, so why aren't we doing better? Because it takes a lot of effort and **MOTIVATION**.
- **Finding the motivation within you** is the key to successful, lasting change

DO THESE THREE EXERCISES:

1.- What's important in your life? (list the top 4 priorities in your life)

- _____
- _____
- _____
- _____

2.-Face these questions: (based on your priorities)

Question #1: Can you live an optimal life without your health?

Question #2: Does your life reflect what's truly important to you? If the answer is no, go directly to #4

Question #3: Can you live your life in a way that better supports your goals and priorities? If the answer is no, go to #4

Question #4: Do you have the luxury to live in ways that are not important to you? Do you have another life to live?

3.- Make changes in your life: (Healthier Exercise and Eating)

Tips for Getting More Exercise

- Find opportunities in your schedule
 - Weekends; Prior to work; lunch time; evenings
 - TV time – exercise in front of the TV
 - Add physical activity to your normal routines (take the stairs; park your car further from work; walk 10 minutes after lunch)

- Exercise early in the day – the sooner you get it done, the less likely you are to skip it later
- Use a Pedometer to monitor (honestly!) and do more walking
- Find things you like to do; make exercise enjoyable
- Make a Schedule – be as specific as you need to be
- Plan for problem times: plan and write down how you will get physical activity on days when your schedule is tight or the weather doesn't cooperate
- Find an exercise buddy and hold each other to your goals; join a class

Tips for Eating Less- -> Manage appetite and satiety

- When do you tend to overeat? Plan for those moments
- Are you **really** hungry? Or are you tired, bored, stressed, worried, lonely?
 - Don't torture yourself, but try to **eat only when really hungry**, and then **only until your appetite is satisfied**
 - Some people do better with grazing, i.e. eating small amounts frequently rather than three big meals.
- Write down three things you can do when the worst cravings hit; Drink water; do some push-ups; deep breaths; brush your teeth; chew sugarless gum; substitute a healthy vegetable
- Try to avoid your overeating habit triggers: i.e. TV; don't allow yourself to get too hungry
- Eat more healthy, filling foods; drink lots of water
- Throw out the easy stuff: substitute water or diluted juice for soda and replace sweets and chips with healthy snacks
- Out of sight, out of mind: keep junk out of your house and out of your way
- Eat slowly; savor every bite
 - Talk to your family
 - Chew your food
 - Take a breath between bites
 - Put down your fork between bites
- Make written rules: (i.e. no food after 8 PM; sweets only once per week)
- Dish out limited portions; **Never** sit down to an unlimited supply of food (don't bring the whole bag of chips)
- Do not starve yourself; it won't work. Eat less, **not** none at all

Paradox = people can prevent disease & people don't prevent disease.

Attitudes and Appetites often affect our behaviors beyond our intent.

DIET BOOKS: learning from all the books out there

(The 11 listed books are in the Morgan County Library)

“Eat More, Weigh Less: Dr. Dean Ornish’s Program for Losing Weight Safely While Eating Abundantly,” Dean Ornish, M.D.

- **Ornish Theory:** vegetarian approach, “Eat foods that are less dense in calories (i.e., lower fat) and higher in fiber (avoid sugar and other simple carbohydrates)”
- **Ornish Strengths::**
 - Cites research evidence and has done studies
 - Includes recipes and menu plans
 - Strong advocate of daily exercise
 - Pays attention to emotional aspects of eating and lifestyle modification
- **Ornish Weaknesses:**
 - Vegetarian approach makes adherence difficult for omnivores
 - Restricts **all** oils/fats/meats:
 - Ignores benefits of Omega 3 fatty acids

“Volumetrics,” Barbara Rolls, Ph.D., and Robert Barnett

- **Volumetrics Theory:** A person tends to eat the same *weight* of food each day. Thus, when eating food with lower energy density you will eat fewer calories but still feel full. Foods with high fiber and water content add weight to food without calories: fruits, vegetables, low-fat meat, cooked grains, beans. (An easier Ornish approach)
- **Volumetrics Strengths:**
 - Introduces concept of energy density: focuses on appetite in causing weight gain and satiety in preventing weight gain
 - Encourages familiarity with hunger sensations and eating only when hungry
 - Includes food advice, recipes, and menu plans
 - Emphasizes exercise
 - Based on research (though very little data included)
- **Volumetrics Weaknesses:**
 - Longest study on weight loss was only 14 days!
 - Doesn’t differentiate fats (ignores Omega 3 fats) or relate foods to disease processes
 - Emphasizes old, inadequate USDA Food Pyramid

“Eat, Drink, and Be Healthy,” Walter Willett, M.D.

- **“Be Healthy” Theory:** Addresses both nutrition and weight control; creates new food pyramid that emphasizes exercise and food having *fewer bad fats* (trans and saturated fats) and *more good fats* (oils and fish); eat *fewer refined-grain carbs* and *more whole-grain carbs*;

choose healthy sources of protein (less saturated fat); eat plenty of fruits and vegetables, but *hold the potatoes*

- **“Be Healthy” Strengths: Dr. Hahn’s favorite book**
 - Based on large body of research (the Nurses Health Study involved 121,000 women)
 - Very clear and well-referenced
 - Emphasizes exercise
- **“Be Healthy” Weaknesses:**
 - May not have enough specific information for weight loss
 - Needs more specific exercise recommendations
 - Fatal Flaw: denies the risk of excessive Omega-6 actions; recommends nuts and certain oils that are high in omega-6 fatty acids
 - Conclusions are drawn from epidemiologic associations rather than proved causal mechanisms and clinical intervention studies

“South Beach Diet,” Arthur Agatston, M.D.

- **South Beach Diet Theory:** (the healthy Atkins) Lower the carbohydrates in your food and lose weight. “Eat the right fats and the right carbohydrates.” Similar to Atkins, begins with very low carb initial phase to induce weight loss, and then gradually adds back selected carbs. Avoids saturated fats (unlike Atkins) and high glycemic index carbs (as Willett does).
- **South Beach Diet Strengths:**
 - Recommends fairly sensible nutrition
 - Very specific food recommendations and tasty menus make it easy to follow
 - Recognizes that this approach may satisfy hunger better than high-carb approaches
- **South Beach Diet Weaknesses:**
 - Shaky theory, based more on anecdotes than research evidence
 - Despite its claims that only carbs matter and calories don’t count, it is a low-calorie menu
 - Too little emphasis on exercise
 - Recommended plans do not balance omega-3/omega-6 intakes

“Dr. Atkins’ NEW Diet Revolution,” Robert Atkins, M.D.

- **Atkins Theory:** oversimplifies an idea that all weight gain is due to carbohydrates (carbs increase insulin which causes fat storage; very low-carb approach induces breakdown of fat). Four phases, beginning with very low-carb/high fat to lose large amounts of weight, and gradually adding back some carbs
- **Atkins Strengths:**
 - Cites some research
 - Emphasizes issues surrounding processed carbs
 - Includes vegetables (he likes them!)

- Shows evidence that some people can lose weight early/quickly
- **Atkins Weaknesses:**
 - Horribly written with hundreds of pages of sales pitch
 - Theory is controversial and bitterly contested by professional nutrition scientists who cite other research results
 - Doesn't differentiate types of food fats and leaves omega-3 intakes low
 - Ignores describing how this diet cuts appetite
 - No evidence that the advice gives long-term weight loss
 - *Emphasis on saturated fat may be dangerous: may increase heart disease and cancer*
 - Very little emphasis on exercise

“The OmegaRx Zone,” Barry Sears, Ph.D.

- **OmegaRx Zone Theory:** Excessive actions of the omega-6 eicosanoids mediate disease mechanisms that are diminished by eating omega-3 fats.
- **OmegaRx Zone Strengths:**
 - Updates biomedical information on causal mechanisms and mediators of diseases
 - Has simple “basic plan” for balancing low-fat protein and vegetables and fruit at every meal
 - Recommends blood test monitoring of ratio of omega-6 over omega-3 for monitoring risk status
- **OmegaRx Zone Weaknesses:**
 - Exaggerated claims and obsessive salesmanship
 - Recommends only his products as safe omega-3 supplements
 - Has food plans that do NOT balance omega-6 with omega-3

“The Inflammation Cure,” William Meggs, M.D

- **Inflammation Cure Theory:** this diet plan alerts the public to the body's immune alarm systems that over-respond to irritants with inflammation that promotes diseases such as heart disease, diabetes, cancer, and chronic fatigue. Discusses dietary and lifestyle choices, as well as mind-body awareness as a means to decrease inflammation and disease.
- **Inflammation Cure Strengths:**
 - Introduces allergic responses as a trigger of inflammation
 - was early in linking diet to body's immune alarm systems
 - Discusses overall lifestyle and its relation to health and disease
- **Inflammation Cure Weaknesses:**
 - Confusing dietary guidelines regarding fish and meat
 - Uncertain focus on pro-inflammatory omega-6
 - Medical information somewhat misleading
 - Focuses too strongly on treatment rather than prevention

“The Omega Plan,” Artemis Simopoulos, M.D. and Jo Robinson

- **Omega Plan Theory:** eating foods high in omega-6 fatty acids promotes diseases, while eating more omega-3 and increasing the ratio of omega-3 to omega-6 prevents disease
- **Omega Plan Strengths:**
 - Summarizes plan into “7 Dietary Guidelines” for easy management of food choices
 - Lots of specific meal plans and recipes
 - Cites research and avoids excessive salesmanship
- **Omega Plan Weaknesses:**
 - Fails to give exercise recommendations for calorie control
 - Neglects information on appetite and satiety

"The Queen of Fats: Why omega-3s were removed from the Western diet and what we can do to replace them" by Susan Allport

- **Queen of Fats Theory:** Humanistic insights into the history of how imbalances of omega-6 and omega-3 fats cause disease are in separate biographical chapters about the pioneers who built the story
- **Queen of Fats Strengths:**
 - Gives a sense of personal adventure in scientific research
 - Describes how fragmented information created paradoxes
 - Has a timeline plus a glossary and lots of notes and references
 - Describes a deficit in attitudes toward prevention
 - This is interesting investigational reporting on a major problem
- **Queen of Fats Weaknesses:**
 - No specific meal plans and recipes
 - No specific exercise recommendations for calorie control

"The Ultimate Omega-3 Diet" by Evelyn Tribole

- **Ultimate Omega-3 Theory:** This easily read text clearly advises readers to increase intakes of omega-3 foods and lower excessive harmful omega-6 actions
- **Ultimate Omega-3 Strengths:**
 - Tells how inflammation links diet to chronic diseases
 - Notes importance of omega-3 for developing brains
 - Gives lots of specific meal plans and recipes
 - Tells how to use KIM-2 menu planning software
 - Has many references to published scientific reports
- **Ultimate Omega-3 Weaknesses:**
 - No exercise recommendations for calorie control
 - No information on appetite control and satiety

Anti-Inflammatory Foods for Health: Hundreds of Ways to Incorporate Omega-3 Rich Foods into Your Diet to Fight Arthritis, Cancer, Heart Disease and More.

Barbara Rowe and Lisa M. Davis

- **Anti-Inflammatory Foods Theory:** Boosting less inflammatory omega-3 fats, avoiding excessive inflammatory omega-6 fats and balancing food energy with more exercise and less “supersized” servings all combine for a healthy life.
- **Anti-Inflammatory Foods Strengths:**
 - Gives excellent advice and information in an easily read format
 - This 2008 book builds on good ideas of previous diet books
 - Presents attractive photos of well-selected foods
 - Provides a “pyramid” built upon calorie and weight control
 - Includes antioxidants as desired food elements
- **Anti-Inflammatory Foods Weaknesses:**
 - Little data on exercises for energy expenditure
 - Little on appetite management
 - Little on inflammatory mediators linking the diverse diseases

CONCLUSIONS ABOUT DIET BOOKS WE DISCUSSED:

- There is **not yet a perfect diet book**: each popular diet plan neglects some aspect of nutrition or science or health in establishing its own specialized niche (to sell the book)
- Diet advice often addresses body weight & ignores **inflammation**
- Every person who lost weight voluntarily ate **fewer calories**
- Cutting “carbs” often cuts weight by **cutting total calories**.
- Some people have better **appetite control** on one diet than another.
- Most books fail to focus on **controlling appetite/satiety**
- Except for Atkins, each book offers a reasonably safe approach to nutrition and weight loss. Atkins’ emphasis on saturated fat and ketosis may be unhealthy
- There is **more than one way** to control appetite and weight
- There is **more than one way** to prevent tissue inflammation
- Too little is known about **individual differences** in appetite/satiety control to strongly recommend one way over another
- Few books tell how big meals (food energy) **trigger** inflammation
- Few books tell how omega-6 fats **amplify** inflammation
- All books emphasize the **benefits of vegetables and fruits**
- Most diet books fail to put enough emphasis on **exercise**
- Most diet books fail to put enough emphasis on **omega-3** balance
- No matter what you do to control weight and inflammation,

SELF-AWARENESS AND SELF-DISCIPLINE IS REQUIRED

LESSONS LEARNED:

Morgan County Menus' Ten Commandments

1. Eat more vegetables, beans, and fruits
2. Control your weight through daily exercise of 30-60 minutes and by controlling your calorie intake
3. Increase your omega-3 fats by eating seafood regularly and/or taking omega-3 supplements
4. Decrease your omega-6 fats by eating less corn oil, safflower oil, sunflower oil, soybean oil, and cottonseed oil
5. Use olive, canola or high-oleic oils, but use any oil sparingly
6. Control total daily calories by eating smaller, more frequent meals; eat only until satisfied; Don't overeat
7. Avoid sweets and junk food snacks
8. Eat fresh, healthy vegetables and soups that *fill you up* but don't contain many calories
9. Eat less saturated and trans-fats by eating less red meat and whole fat dairy products and avoiding “partially hydrogenated vegetable oils”
10. Choose whole grain breads and cereals and avoid sugar and refined carbohydrates

Principles For A Perfect Menu And Life-Style

- **Change the Way You View Food:**
 - The **types of food** a person eats, the **overall amount of daily calories**, and the number of **calories eaten at any one meal** are *all important* and can create or prevent disease. **Preventing** disease is better than treating disease after it happens. In terms of our health, most of us can not afford the health loss from eating excessive non-nutritive food.
 - **The Perfect Menu:** has lots of nutrients, nothing harmful, satisfies your appetite (but controls calories), and tastes good
 - **HEALTH = (NUTRIENTS/CALORIES) X EXERCISE** (adapted from “Eat to Live,” by Mark Fuhrmann). Strive to squeeze as much nutrition into as few calories as possible (*raise nutrition density* of your food & *lower energy density!*)
 - While **food** is something that should be *savored, valued, and enjoyed*, other images of food are important:
 - **Food** is our **fuel** (you wouldn't put the wrong fuel in your car, so why do it to your body?) Don't pump in more fuel when the tank is full.
 - **Food** is a **tool**, *more powerful than any medicine*, that helps you create health and prevent disease - but if used the wrong way, it can cause disease!

- **Daily Exercise** is necessary to feel good and control weight, as well as decrease chances of diabetes, heart disease, cancer, and depression.

HEALTHY FOOD CHOICES

- **Eat More Healthful Foods:** nutrient-rich, Omega-3 fats, high-fiber
 - Emphasize a wide variety of **fresh vegetables, greens, and fruit** at every meal
 - Eat **beans**, especially kidney, pinto, pink, black beans, mungo beans
 - Choose **whole grain breads and cereals** and avoid refined foods
 - Eat at least 2-3 servings of **seafood** per week; consider an **omega-3 supplement**.
 - Cook with olive, canola or high-oleic oil (but don't add any oil when it is not needed)
- **Eat More Satiating Foods:** eat satisfying amounts with less calories per serving
 - Eat lean proteins (fish, beans, squash and a little poultry or tofu)
 - Emphasize high-fiber foods
 - Make healthy soups (with high water content) that fill you up.
- **Eat Less Harmful foods and substances:**
 - **Avoid** sweets, commercially prepared snack and fried foods and highly processed/low fiber foods (junk and snack foods); **sugar-filled foods** are for rare and special occasions (once per week or less). Sugar adds calories but no nutrition.
 - **Avoid saturated** fats (red meat, full-fat dairy products) and *trans* fats (partially hydrogenated oils in most commercially prepared snack and fried foods), and eat less *Omega-6* fats (by limiting corn, safflower, sunflower, soybean, and cottonseed oils). **Replace** fatty red meat (with saturated fat) with vegetable protein (peas and beans), seafood, and low-fat poultry.
 - **Minimize contaminants** (pesticides, mercury, etc...); always clean fruit and vegetables thoroughly
 - **Moderation** and **Variety** are important: too much of only one type of food may be dangerous; **strive for at least 20-30 different foods** each day
 -

Food Choices Cause Disease:

In the 2nd edition, "Fish, Omega-3 and Human Health" (2005), Bill Lands gave diet plans and ideas like those on the next pages. In July 2009, he also published "Planning Primary Prevention of Coronary Disease" in *Current Atherosclerosis Reports* and "False Profits and Silent Partners in Health Care" in *Nutrition and Health*.

Food Choices Cause Disease:

Foods have mixtures of vitamin-like omega-3 and omega-6 fats. An excess of omega-6 over omega-3, as well as an excess of calories, leads to inflammation that harms blood vessels, causes heart attacks, blood clot formation, strokes, and abnormal heart rhythms, and plays a role in chronic diseases like asthma, arthritis, bone loss, cancer and bipolar and major depression.

Omega-3 and omega-6 fatty acids are essential vitamin-like nutrients that our body converts into long-chain precursors of hormones. When our tissues respond to stimuli, they convert the accumulated precursors into omega-3 and omega-6 hormones. Omega-3 precursors lower excessive actions of omega-6 hormones.

Inflammation: a complex mixture of hormones and cells that act in inflammatory events drives dozens of different disorders and diseases.

- **Increased Omega-3 fats & Decreased Omega-6 fats → less inflammation → less disease**
- **Increased Omega-6 fats & Decreased Omega-3 fats → more inflammation → more disease**
- **Excess Calories in Any Big Meal and Excess Total Daily Calories → fat production → more inflammation → more disease**

Heart Disease: diets high in saturated fats, trans fats, and omega-6 fats are associated with higher rates of heart disease, while diets high in vegetables, fruits, fibers, and omega-3 fats are associated with lower rates of heart disease

Cancers: saturated fats, omega-6 fats; excessive alcohol, and smoking increase inflammation and growth of certain cancers; whereas eating more vegetables, fruits, fibers, omega-3 fats plus exercising more may decrease the incidence of certain cancers

Obesity, Insulin Resistance and Metabolic Syndrome: Food energy supports healthy activity - - but food energy that we do not burn up with exercise accumulates as body fat. Overweight people with high blood pressure, low HDL, and high triglycerides are treated as "pre-diabetes" and "pre-heart disease".

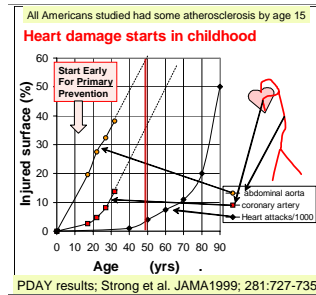
- This is prevented by fewer calories per meal plus exercise and healthy eating with low glycemic foods (JAMA, Nov. 2004)
- *Glycemic Index* and *Glycemic Load* = how high/fast blood sugar rises after eating a food. Sweets and processed carbohydrates like white bread cause a high/fast spike in blood sugar, but whole grains and proteins give lower/slower rise in blood sugar.
- Food habits that cause obesity also cause higher rates of heart disease, diabetes, certain cancers, arthritis pain, and debility
- *Fit vs. Fat*: a study reveals if you can't be fit and thin, it's better to be fit and fat rather than unfit and thin (JAMA, Sept. 2004).

Prevent The CAUSE - - - NOT Just The SYMPTOMS

The US Centers for Disease Control and Prevention views cardiovascular disease (CVD) as “among the most preventable diseases” while it also predicts that Americans will lose *more than \$503 billion in 2010* due to health care expenditures and lost productivity from CVD deaths and disability. If it is preventable, why is it costing us so much! A fact that may help resolve this paradox is that medical care focuses on **treatment** of signs and symptoms with expensive technology, surgical techniques and medications while it neglects **prevention** of food-based causes of those signs and symptoms. Also, standard medical treatment is offered only after disease appears rather than preventing the cause **BEFORE** years of accumulated damage weaken a person's health.

When disease is prevented, treatment expenses are not needed. Preventing financial loss requires preventing primary causes rather than treating signs and symptoms (risk factors) that result from those causes. Dietary imbalances cause inflammatory damage to begin in childhood and accumulate year by year.

Autopsies in a large study called “Pathobiological Determinants of Atherosclerosis in Youth (PDAY)” show vascular disease begins **in childhood** and steadily progress into fatal events. Teenagers already had inflammatory regions in their arteries. Over 30% of the surface was injured in 30-40 year old adults.



We should try to **prevent** poor eating habits that cause disease. Each super-sized meal starts tissue injury. If we do not stop early primary causes, our children face lifelong disability with continued expensive treatments and medications.

The first step in prevention is being aware of how to decrease poor eating habits that **cause** the problem. All CVD risk factors predict a likelihood of CVD, but not all of them cause CVD. Thus, reducing some risk factors can waste money and not reduce many CVD events.

We can prevent two poor eating habits that **cause** disease:

- 1- imbalance between ingestion and expenditure of food energy;
- 2- imbalance between omega-3 and omega-6 fats in foods.

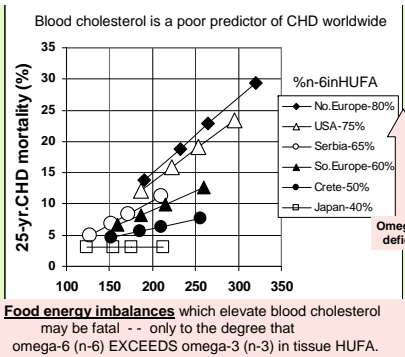
Will we do it?

Low-cost interactive technology with menu planning software, bathroom scales and pedometers give feedback awareness that helps people change their own behavior (like lighted radar signs) for a longer, healthier life. People can help other people keep healthy habits

RECOGNIZING BIOMARKERS AND THEIR MEANING

Every disease has “determinants” that **describe** the presence and severity of disease, but they are not the causes of disease. Also, diseases can have many “risk factors” that **predict** likelihood of more severe disease, but they also may not be the cause of the disease. The figure below clearly shows that high blood cholesterol is associated with death from heart disease (CHD) in the USA. However, an association does not mean that elevated cholesterol causes death, but that some thing causing it may cause death.

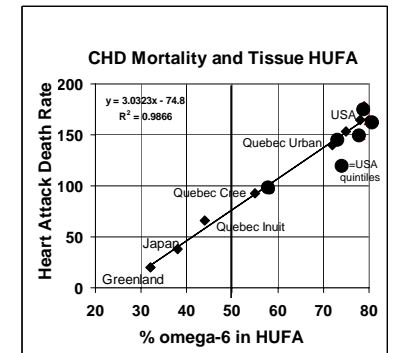
Paradoxically, this much-discussed biomarker predicts risk of death in Northern Europe and the USA, but does not in countries where people have omega-3 hormone precursors equal or more than omega-6. A 25-year follow-up of the large Seven Countries Study showed CHD



Food energy imbalances which elevate blood cholesterol may be fatal - - only to the degree that omega-6 (n-6) EXCEEDS omega-3 (n-3) in tissue HUFA.

deaths associate with TC in different ways in different countries that had different balances in omega-6 and omega-3 fats. Cholesterol did **NOT** predict CHD deaths in Japan where the omega-3 deficit is much less than in the USA. The ability of diet-induced high blood cholesterol to predict observed death rates depends on how much higher the **inflammatory omega-6 biomarker** is above 40%.

Menu plans at the end of this book have different daily food choices that give biomarker values from 9% to 81% - - values with very different levels of risk. People with more than half of their hormone precursors (HUFA) as omega-6 have a much greater risk for death from heart attacks than those with less than half. The proportions of hormone precursors depend on the relative amounts of omega-3 and omega-6 in the foods eaten. The menu planning software uses the USDA nutrient database to help you learn nutrient amounts in a large number of different foods. You may want to eat foods that keep lower percentages of omega-6 in your hormone precursors.



You can choose your own personal menu plans that lower the causal food imbalances to fit your own sense of risk aversion by using free software from <http://efaeducation.nih.gov/sig/kim.html>.

How Exercise Will Save Your Life

Proposition #1: Being physically active is vital to control your weight

- **The math of weight control (losing 10 pounds)**
- One pound of fat = 4,090 calories; Ten pounds = 4,090 x 10 = 40,900 calories
 - To lose **10 pounds** over **3 months** (90 days), you need to cut, on average, about **450 calories per day**.
- Cutting 450 calories per day through diet alone can be difficult
- Walking one mile (2,000 steps) burns between 100 to 150 calories
 - Walking 10,000 steps (five miles) burns about 500 to 750 calories
- An **achievable** goal is to **lose 10 pounds in 3 months** (-450 cal per day):
- Walk 2.5 miles more per day (2.5 miles x 125 cals per mile): 312 cal and cut 137 calories from daily food (*less than half of a bottle of soda*)

Proposition #2: Obesity is a growing threat to our health

- We can prevent the **causes** of obesity, which also make worse many other diseases: type 2 diabetes, high blood pressure, heart disease, stroke, asthma, arthritis, gallbladder disease, gout, sleep apnea, and cancer in breast, colon, esophagus, kidney, liver, pancreas, prostate, rectum and uterus
- **From 1988 to 2000, the rate of obesity grew from 22.9% to 30.5%; about 130 million Americans are overweight or obese**
- **2/3 of the adult USA population** are overweight or obese
- "Obesity is associated with **more chronic disorders** and worse *physical health-related quality of life than is smoking or problem drinking.*"
- Obesity costs the USA **between \$69 and \$117 billion per year**

Proposition #3: Being Physically Active May Save Your Life

1. Exercise Lowers the Risk of Developing Heart Disease

- British Regional Heart Study, 1991: exercise lowered risk of 1st heart attack 50%
- German Cardiovascular Disease Prevention Study, 1996: exercise lowers heart disease deaths **67%**

2. Exercise Lowers the Risk of Developing Stroke

- "Physical Activity and Risk of Stroke in Women," (JAMA, 2000): (Nurses' Health Study, 72,488 women) **decreased stroke up to 34% to 48%.**

3. Exercise Lowers the Risk of Developing Diabetes

- "Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance," NEJM, 2001: the cumulative incidence of diabetes was **58% lower** in the intervention group.

4. Exercise Lowers Risks of Developing Cancers

- **Breast Cancer**
 - "Physical Activity and the Risk of Breast Cancer," NEJM, 1997: overall **37% lower risk of breast cancer**; in thin women who exercised at least four hours per week, risk was **72% lower**
- **Colorectal Cancer**
 - "Physical activity in relation to cancer of the colon and rectum in a cohort of male smokers," Cancer Epidemiol., 2001: protective role for exercise in cancers of the colon and rectum, strongest association found for those most active in both work and leisure - they had **67% lower risk.**

5. Exercise Lowers the Risk of Alzheimer's Disease

- "Physical activity and risk of cognitive impairment and dementia in elderly persons," Arch Neurol, 2001: high levels of physical activity were associated with **50% lower risk of Alzheimer's disease.**

Proposition #4: Preventable medical conditions use a large and growing proportion of U.S. health care dollars

(National Vital Statistics Reports show **five of the ten** leading causes of death (68.5% of total 2002 deaths) were due to largely preventable medical conditions.)

Disease	Deaths	% of Deaths
○ 1. Heart Disease	696,947	28.5
○ 2. Cancers	557,271	22.8
○ 3. Stroke	162,672	6.7
○ 4. Respiratory Disease	124,816	5.1
○ 5. Accidents	106,742	4.4
○ 6. Diabetes	73,249	3.0
○ 7. Flu and Pneumonia	65,681	2.7
○ 8. Alzheimer's Disease	58,866	2.4
○ 9. Kidney Disease	40,974	1.7
○ 10. Septicemia	33,865	1.4

PREVENT THE PREVENTABLE:
More physical activity,
healthy eating and
avoiding tobacco

WILL SAVE YOUR LIFE!

Keep a Personal Log of Activities		Basal expended	Calories Used Today =AxBxC
A. - Activity & expenditure rate in Cal/lb/hr			
B.-Body weight in lbs .= > 160		1728	
C.- Clock time today in hrs.			
	Cal/lb/hr	hrs.	
Sleeping (basal rate)	0.45	9.00	654
Eating, shaving, brushing teeth	0.55	1.00	88
Riding in a car	0.50	0.00	0
Walking, 3 mph, moderate	1.82	0.40	116
Computer & internet use	0.45	5.20	378
Preparing/eating meals	1.10	1.40	246
Walking, 3 mph, moderate	1.82	0.00	0
Watching television	0.48	3.00	230
Sweeping floors	1.40	0.10	22
Reading newspaper, book	0.45	1.90	138
Eating	0.50	1.00	80
Riding in a car	0.50	1.00	80
Dancing, ballroom, slow	1.36	0.00	0
sum total hours assigned=>		24.00	2032
"basal" activity	0.45	24 ?	? 1728
"very light activity"	0.68	24 ?	? 2614
"light activity"	1.13	24 ?	? 4357
"moderate activity"	2.27	24 ?	? 8714
"heavy activity"	3.18	24 ?	? 12199

Guidelines from Chapter 3, Recommended Dietary Allowances, 10th Edition, National Academy Press, 1989

Most 1989 guidelines assume more calories are burned than is common in 2005
 How many hours of moderate to heavy activity did you have today?

Lists of **estimated caloric expenditure** for many activities are at <http://www.solutionsinfitness.com/kcalexpenditure.htm> and a useful calculator is at <http://primusweb.com/fitnesspartner/jumpsite/calculat.htm>

Rates of Energy Expenditure

Activity	Cal/lb/hr	body weight (lbs.)		
		130	155	190
Aerobics exercises, low impact	2.6	338	403	494
Backpacking, large pack	3.2	413	492	604
Bicycling, 10 mph, light effort	3.3	429	512	627
Bicycling, 14-16 mph, vigorous	4.8	624	744	912
Bicycling, stationary, moderate	3.2	413	492	604
Computer & internet use	0.6	78	93	114
Dancing, ballroom, slow	1.4	177	211	259
Dancing, aerobic, ballet, twist	2.9	377	450	551
Golf, pulling clubs	2.6	338	403	494
Hiking, cross country, hills	2.9	377	450	551
Jogging, general	3.2	413	492	604
Marching band, playing, walking	1.8	236	281	345
Race walking, 5 mph	3.6	472	563	690
Riding in a car	0.5	59	70	86
Running, 6 mph (10-min mile)	4.5	590	703	862
Running, 7.5 mph (8-min mile)	5.7	738	880	1079
Sleeping	0.5	59	70	86
Sweeping floors	1.4	182	217	266
Swimming, freestyle, moderate	2.7	354	422	517
Tai chi	2.0	260	310	380
Walking, 3 mph, moderate	1.8	236	281	345
Walking, 4 mph, brisk	2.5	325	388	475
Watching television	0.5	59	70	86

Basal calories used in 24 hrs = 1274 1519 1863

Estimate the calories you ate yesterday, and you'll begin to see why some added exercise is needed every day to maintain health.

Food energy keeps us moving & unused energy keeps us fat

If you want to lose weight, remember A x B x C.

Make your food energy intake be [0.5 X your weight X 24]

- - - any calories above that will need more exercise to burn it.

Be aware of what you eat!

Keep a healthy waist at one-half your height.

Understanding the **Nutrition Facts** Panel on Food Labels

1. Calories Per Serving and Serving Size are measures that often fool people. Serving sizes differ greatly and some seem very small! You may be eating three servings and thinking it is just one.

Check the servings per container so that you can better estimate the calories you consume.

Calories as fat gives lots of energy that is stored if not burned. Eating more energy than we burn gives weight gain and obesity (page 17).

2. Fat: **saturated** fat (found in dairy products and red meat) and **trans** fats (found in margines and most snack foods) increase risk factors predicting heart disease. Look at the "Ingredients" section to see if the food has "partially hydrogenated vegetable oil", which has **trans** fat.

Many food labels at this time do not include the amount of monounsaturated fats (found in olive, canola and high-oleic oils). Also, labels seldom indicate whether the **polyunsaturated** fat is omega-3 (protective) or omega-6 (inflammatory and thrombotic). Labels noting soybean or corn oil ingredients indicate more omega-6 than omega-3.

3. Sodium: limit this nutrient, as it may increase blood pressure.

4. Total Carbohydrates: this information is of limited value. More important is the proportion of dietary fiber and sugar in it.

5. Fiber: foods high in fiber may protect people from heart disease, diabetes and certain cancers. Adults should try to eat at least 25-30 grams per day.

6. Sugars: these contain just calories with no other nutrient benefit.

The US Dept of Agriculture has useful lists of nutrient amounts at <http://www.ars.usda.gov/Services/docs.htm?docid=18877> and a detailed nutrient database at http://www.nal.usda.gov/fnic/cgi-bin/nut_search.pl

Nutrition Facts	
Serving Size 1 ounce Servings in bag 4	
Amount Per Serving	
Calories 155	Calories from Fat 93
% Daily Value*	
Total Fat 11g	16%
Saturated Fat 3g	15%
Trans Fat	
Cholesterol 0mg	0%
Sodium 148mg	6%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	5%
Sugars 1g	
Protein 2g	
Vitamin A 0%	Vitamin C 9%
Calcium 1%	Iron 3%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

A LABEL-READING EXERCISE

Choose a food that you currently have in your pantry or refrigerator and **list the following information from the Nutrition Facts label.**

How many cups, ounces or grams make a single serving?

How many calories does the whole container provide?

How much saturated fat is in one serving?

Does a serving have more sodium than potassium?

Does a serving have more grams of carbohydrate than fat?

What fraction of the carbohydrate is dietary fiber?

Does a serving have more grams of protein than fat?

List the three most abundant nutrients in your chosen food:

- 1st. _____
- 2nd. _____
- 3rd. _____

The National Heart, Lung and Blood Institute (NHLBI) at NIH has a useful interactive quiz about food servings called **Portion Distortion** at <http://hin.nhlbi.nih.gov/portion/>

The calorie content and the milligrams of omega-3 and omega-6 polyunsaturated fats in almost 12,000 food servings are easily viewed in the interactive personalized menu planning software called KIM-2. You can download it free from <http://efaeducation.nih.gov/> and make your own personalized daily menu plans like those shown on pages 30-37.

Food oils and nuts

Food Oils & Nuts	serving size	energy Calories	protein grams	Carb grams	sugar grams	Fiber grams	Cal/gFiber	Fat grams	short (18carbon) Omega-6 mg	long(20&22carbon) Omega-6 mg	Omega-3 mg	
salmon oil	1Tbs	123	0	0	0	0	12300	14	210	525	92	4658
sardine oil	1Tbs	123	0	0	0	0	12300	14	274	591	239	3096
cod liver oil	1Tbs	123	0	0	0	0	12300	14	127	254	127	2557
sunflower oil, high-oleic	1Tbs	124	0	0	0	0	12400	14	505	27	0	0
palm oil	1Tbs	120	0	0	0	0	12000	14	1238	27	0	0
olive oil	1Tbs	119	0	0	0	0	11900	14	1318	103	0	0
safflower oil, high-oleic	1Tbs	120	0	0	0	0	12000	14	1952	0	0	0
canola oil	1Tbs	124	0	0	0	0	12400	14	2661	1279	0	0
soybean oil, partial hydrog.	1Tbs	120	0	0	0	0	12000	14	4746	354	0	0
soybean oil	1Tbs	120	0	0	0	0	12000	14	6929	923	0	0
cottonseed oil	1Tbs	120	0	0	0	0	12000	14	7004	27	0	0
walnut oil	1Tbs	120	0	0	0	0	12000	14	7194	1414	0	0
sunflower oil	1Tbs	120	0	0	0	0	12000	14	8935	0	0	0
safflower oil	1Tbs	120	0	0	0	0	12000	14	10149	0	0	0
Coconut meat, dried, unswe	3oz(100g)	660	7	24	7	16	40	65	710	0	0	0
Macadamia nuts, dry roaste	3oz(100g)	716	8	13	4	8	90	76	1,300	196	0	0
flaxseed meal	3oz(100g)	534	18	29	2	27	20	42	5,903	22,813	0	0
Cashew nuts, dry roasted	3oz(100g)	574	15	33	5	3	191	46	7,660	160	0	0
Hazelnuts (filberts)	3oz(100g)	628	15	17	4	10	65	61	7,830	87	0	0
Almonds, honey roasted	3oz(100g)	594	18	28	na	14	43	50	10,100	360	0	0
Almonds, dry roasted, with s	3oz(100g)	597	22	19	5	12	51	53	12,600	0	0	0
Almonds, oil roasted, with s	3oz(100g)	607	21	18	5	11	58	55	13,500	0	0	0
Pistachio nuts, dry roasted	3oz(100g)	568	21	27	8	10	55	46	13,640	260	0	0
Peanuts, virginia, oil-roaste	3oz(100g)	578	26	20	na	9	65	49	14,640	19	0	0
Peanuts, dry-roasted, with s	3oz(100g)	585	24	22	4	8	73	50	15,700	3	0	0
Pecans, dry roasted, with s	3oz(100g)	710	10	14	4	9	76	74	19,580	990	0	0
Hickorynuts, dried	3oz(100g)	657	13	18	na	6	103	64	20,620	1,050	0	0
Pine nuts, dried (pinyon)	3oz(100g)	629	12	19	na	11	59	61	24,880	790	0	0
Black walnuts, dried	3oz(100g)	618	24	10	1	7	91	59	33,100	2,000	0	0
Butternuts, dried	3oz(100g)	612	25	12	na	5	130	57	33,700	8,700	0	0
Walnuts, english	3oz(100g)	654	15	14	3	7	98	65	38,100	9,080	0	0
peanut butter + omega-3	2 Tbs	194	7.84	5.44	1	2	97	17.34	1,230	938	2	52
peanut butter, smooth	2 Tbs	188	8.03	6.26	2.95	2	99	16.12	4,507	25	0	0

Protein-rich foods

PROTEIN-RICH FOODS	serving size	energy Calories	protein grams	Carb grams	sugar grams	Fiber grams	energy total Cal/gFibe	totalFat grams	short (18carbon) Omega-6 mg	long(20&22carbon) Omega-6 mg	Omega-3 mg	
meats, seafood & beans												
chicken breast, roasted	100g	197	30	0	0	0	19700	8	1410	60	70	50
chicken breast, KFC extra crispy	100g	268	21	8	0	0	26800	17	5870	282	66	9
turkey breast	100g	194	29	0	0	0	19400	8	1520	80	190	70
pork loin	100g	255	26	0	0	0	25500	16	1200	40	50	0
beef, sirloin tri-tip roasted	100g	221	26	0	0	0	22100	12	304	57	45	0
beef tenderloin steak, broiled	100g	206	29	0	0	0	20600	9	260	24	41	0
hamburger patty, 75%lean, pan-broile	100g	248	23	0	0	0	24800	16	359	44	40	0
salmon, wild Atlantic, broiled	100g	182	25	0	0	0	18200	8	220	484	342	2208
salmon, farmed Atlantic, broiled	100g	206	22	0	0	0	20600	12	666	297	1273	2147
tuna, bluefin, broiled	100g	184	30	0	0	0	18400	6	68	50	55	1664
herring, pickled	100g	262	14	10	8	0	26200	18	211	0	0	1468
sardines, canned in tomato sauce	100g	185	21	1	0	0	1850	10	123	235	297	1457
tuna, white, canned in water	100g	128	24	0	0	0	12800	3	55	122	51	880
crab, steamed, blue	100g	102	20	0	0	0	10200	2	28	40	84	528
catfish, breaded & fried	100g	229	18	8	0	1	327	13	2616	208	98	398
shrimp, steamed	100g	99	21	0	0	0	9900	1	21	12	71	335
shrimp, breaded & fried	100g	242	21	11	0	0	605	12	4511	267	59	268
shrimp, TGIFridays breaded & fried	100g	241	14	12	0	1	301	15	6613	775	18	118
Lentils	100g	116	9	20	2	8	15	0	137	37	0	0
Black beans	100g	132	9	24	0	9	15	1	130	110	0	0
Kidney beans	100g	127	9	23	0	6	20	1	110	170	0	0
Pink beans	100g	149	9	28	0	5	28	1	110	100	0	0
Lima beans	100g	115	8	21	3	7	16	0	120	50	0	0
Fava beans (broadbean)	100g	110	8	20	2	5	20	0	150	10	0	0
navy beans, canned	100g	113	8	20	0	5	22	0	101	85	0	0
Mung beans	100g	105	7	19	2	8	14	0	120	10	0	0
Mungo beans	100g	105	7	18	2	6	16	1	20	330	0	0
Green peas	100g	84	5	16	6	6	15	0	82	19	0	0
red kidney beans, canned	100g	84	5	16	2	5	16	0	58	46	0	0
garbanzo beans (chickpeas), canned	100g	119	5	23	0	4	27	1	491	19	0	0
pinto beans, canned	100g	86	5	15	0	5	19	1	122	167	0	0
Cowpeas (Blackeye)	100g	97	3	20	3	5	19	0	93	68	0	0
snap green beans, boiled	100g	35	2	8	2	3	11	0	56	89	0	0

PUTTING IT ALL TOGETHER

TAKE OUR CHALLENGE

GOALS:

1. Make **exercise** and **good nutrition** part of every day of the *rest of your life*
2. Make *small changes in your lifestyle* that will put you on the road towards **optimal health for the rest of your life**.
3. **Enjoy your life** more: feel better, look better, control your weight, and live longer!!

GUIDELINES:

1. Choose a 3-month **weight loss goal from 0-25 pounds**. Measure your weight before you begin, throughout the program, and after three months.
2. **Exercise 40 minutes every day** (don't worry, you *WILL* be able to do it); **eat at least 8 servings of vegetables and/or fruit each day**; **and choose one unhealthy habit (such as smoking or overeating) and try to quit**.
3. *Record your participation* on this simple log sheet (p.29), checking off each time that you have reached your daily goal(s).

Daily Goals:

- 1) **40 Minutes physical activity per day**
- 2) **Eat 8 servings of vegetables/fruit every day**
- 3) **Get rid of one unhealthy habit:**
The unhealthy habit I will get rid of is: _____

TAKE THIS THREE-MONTH CHALLENGE:

BEGINNING WEIGHT: _____

Check each time you achieved your goal

	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Activity	_____	_____	_____	_____	_____	_____	_____
Fruit/veggie	_____	_____	_____	_____	_____	_____	_____
Habit	_____	_____	_____	_____	_____	_____	_____
Activity	_____	_____	_____	_____	_____	_____	_____
Fruit/veggie	_____	_____	_____	_____	_____	_____	_____
Habit	_____	_____	_____	_____	_____	_____	_____
Activity	_____	_____	_____	_____	_____	_____	_____
Fruit/veggie	_____	_____	_____	_____	_____	_____	_____
Habit	_____	_____	_____	_____	_____	_____	_____
Activity	_____	_____	_____	_____	_____	_____	_____
Fruit/veggie	_____	_____	_____	_____	_____	_____	_____
Habit	_____	_____	_____	_____	_____	_____	_____

3-MONTH ENDING WEIGHT: _____

3-MONTH TOTAL WEIGHT CHANGE: +/- _____

Very Low Risk of Inflammation, Depression & Heart Attacks

[9% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 9% omega-6 and 91% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

KIM Report by Meal Times For charley

9% Plan # 590 charley 2385

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Milk, reduced fat, fluid, 2% milkfat, with added	1 cup	244	122	1	105	68	0	0	0
Bananas, raw	1 medium (7" to	118	109	1	66	39	0	0	0
Strawberries, raw	1 cup, sliced	166	25	0.5	90	65	0	0	0
Orange juice, raw	1 cup	248	112	1	72	27	0	0	0
Cereals ready-to-eat, GENERAL MILLS,	1 cup (1 NLEA	30	111	1	203	9	0	0	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Mushrooms, raw	0.5 cup pieces	35	9	1	47	0	0	0	0
Lettuce, looseleaf, raw	0.5 cup, shredded	28	5	1	13	32	0	0	0
Spinach, raw	1 cup	30	7	1	7	35	0	0	0
Peas, edible-podded, raw	1 cup, whole	63	26	1	47	8	0	0	0
Vinegar, cider	1 tbs	15	2	1	0	0	0	0	0
Turkey breast meat	2 slices	43	95	2	224	17	0	0	0
Vegetable oil, sunflower, oleic (70% and over)	1 tbs	14	248	2	1010	54	0	0	0
Cheese, low fat, cheddar or colby	1 oz	28	98	2	88	38	0	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Beans, snap, green, frozen, all styles, unprepared	1 cup	124	82	2	102	164	0	0	0
Finfish, bluefish, cooked, dry heat	1 fillet	117	372	2	180	501	0	2497	0
Artichokes, (globe or french), cooked, boiled,	1 artichoke,	120	60	1	59	22	0	0	0
Squash, winter, spaghetti, raw	1 cup, cubes	101	63	2	182	301	0	0	0
Cheese, cottage, lowfat, 1% milkfat	4 oz	113	81	1	25	10	0	0	0
Papayas, raw	1 cup, cubes	140	109	2	17	70	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Blackberries, raw	1 cup	144	75	1	213	108	0	0	0
Finfish, herring, Atlantic, pickled	1 oz, boneless	28	74	1	60	0	0	0	416
Ice creams, vanilla, light, soft-serve	0.5 cup (4 fl oz)	88	222	2	106	70	0	0	0

Total Energy Choice = 2105 kcals

total mg = 2913 1638 0 2913

%Cal= 1.25% 0.70% 0.00% 1.25%

These overall choices will give 9% long 6 in your body's long total

KIM notes:
Your energy allowance is **2385 kcals**
Get more exercise

% long 6 in long total ==>>> 47% 58% 78%

Heart attack deaths/100,000 ==>>> 50 90 200

Very Low Risk of Inflammation, Depression & Heart Attacks

[15% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 15% omega-6 and 85% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

KIM Report by Meal Times For Minnie Imal

15% Plan # 600 Minnie Imal

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Mungo beans, mature seeds, cooked, boiled, with	1 cup	180	95	0.5	22	302	0	0	0
Rice, white, long-grain, regular, cooked	1 cup	158	103	0.5	49	10	0	0	0
Mangos, raw	1 cup, sliced	165	107	1	23	61	0	0	0
Egg, whole, cooked, poached	1 large	50	75	1	572	17	71	21	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Lettuce, cos or romaine, raw	0.5 cup, shredded	28	4	1	9	21	0	0	0
Lettuce, iceberg (includes crisphead types), raw	1 cup, shredded or	55	3	0.5	8	20	0	0	0
Spinach, raw	1 cup	30	3	0.5	3	17	0	0	0
Vinegar, cider	1 tbs	15	2	1	0	0	0	0	0
Cheese, feta	1 oz	28	75	1	92	75	0	0	0
Squash, summer, zucchini, includes skin, cooked,	1 cup, sliced	180	29	1	14	23	0	0	0
427 cold-pressed flaxseed oil	1 Serving	5	40	1	691	2558	0	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Finfish, salmon, coho, wild, cooked, dry heat	0.5 fillet	178	247	1	100	190	39	1885	0
Beans, snap, green, cooked, boiled, drained, with	1 cup	125	44	1	70	111	0	0	0
Broccoli, cooked, boiled, drained, with salt	1 stalk, large	280	157	2	213	722	0	0	0
Cauliflower, cooked, boiled, drained, with salt	0.5 cup (1" pieces)	62	29	2	62	207	0	0	0
Squash, winter, hubbard, cooked, baked, with salt	1 cup, cubes	205	103	1	199	332	0	0	0
Cheese, fontina	1 oz	28	110	1	245	224	0	0	0
Rice, white, short-grain, cooked	1 cup	186	242	1	76	17	0	0	0
Wild rice, cooked	1 cup	164	166	1	195	156	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Finfish, herring, Atlantic, pickled	1 oz, boneless	28	74	1	60	0	0	0	416

Total Energy Choice = 1706 kcals

total mg = 2702 5063 110 2322

%Cal= 1.43% 2.67% 0.06% 1.22%

These overall choices will give 15% long 6 in your body's long total

KIM notes:
Your energy allowance is **1704 kcals**
You're really lean

% long 6 in long total ==>>> 47% 58% 78%

Heart attack deaths/100,000 ==>>> 50 90 200

Low Risk of Inflammation, Depression & Heart Attacks

[26% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 26% omega-6 and 74% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

Low Risk for Inflammation, Depression & Heart Attacks

[35% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - flax meal and/or flax oil for vegetarians

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This vegetarian plan may keep 35% omega-6 and 65% omega-3 in tissue long-chain fats by using ground flax meal with mashed potatoes.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

KIM Report by Meal Times For Tony Friday

26% Plan # 601 Tony Friday

Breakfast

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Cereals, QUAKER, oatmeal, instant, raisins, dates	1 packet	37	135	1	689	85	0	0
Milk, reduced fat, fluid, 2% milkfat, with added	1 cup	244	122	1	105	68	0	0
Blueberries, raw	50 berries	88	38	1	87	46	0	0
Orange juice, raw	1 cup	248	86	0.5	36	14	0	0

Lunch

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Potatoes, Russet, flesh and skin, baked	1 potato medium	173	168	1	55	17	0	0
Cheese, gruyere	1 slice (1 oz)	28	116	1	364	121	0	0
Oil, olive, salad or cooking	1 tbsp	14	80	0.5	533	41	0	0
Pork, fresh, loin, tenderloin, separable lean only,	3 oz	85	139	1	298	9	26	0

Dinner

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Rice, white, long-grain, precooked or instant,	1 cup	95	360	1	80	13	0	0
New Zealand spinach, cooked, boiled, drained,	1 cup, chopped	180	22	1	20	101	0	0
Cauliflower, cooked, boiled, drained, with salt	0.5 cup (1" pieces)	62	14	1	31	104	0	0
Finfish, salmon, coho, wild, cooked, moist heat	0.5 fillet	155	143	0.5	202	270	131	1293
Ice creams, chocolate	0.5 cup (4 fl oz)	66	143	1	165	99	0	0
Broccoli, cooked, boiled, drained, without salt	1 stalk, large	280	78	1	108	381	0	0

Snacks

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Bananas, raw	1 large (8" to 8-7/8"	136	125	1	76	45	0	0

Total Energy Choice = 1718 kcals

total mg = 2607 1374 156 1293

%Cal= 1.47% 0.72% 0.08% 0.68%

These overall choices will give 26% long 6 in your body's long total

KIM notes:
Your energy allowance is 1717 kcals
Get more exercise

% long 6 in long total ==>>> 47% 58% 78%
Heart attack deaths/100,000 ==>>> 50 90 200

KIM Report by Meal Times For Vegetarian

35% Plan # 602 Vegetarian

Breakfast

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Oil, olive, salad or cooking	1 tsp	5	80	2	711	54	0	0
Orange juice, raw	1 cup	248	112	1	72	27	0	0
Squash, winter, hubbard, cooked, baked, with salt	1 cup, cubes	205	103	1	199	332	0	0
Mungo beans, mature seeds, cooked, boiled,	1 cup	180	189	1	43	603	0	0

Lunch

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Potatoes, russet, flesh and skin, raw	1 potato small	170	134	1	43	17	0	0
Grape leaves, canned	1 leaf	4	3	1	6	34	0	0
Seeds, flaxseed	1 tbsp	12	59	1	518	2175	0	0
Rice, white, long-grain, regular, cooked	1 cup	158	411	2	196	41	0	0

Dinner

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Artichokes, (globe or french), cooked, boiled,	0.5 cup hearts	84	42	1	41	15	0	0
Spinach, cooked, boiled, drained, with salt	1 cup	180	41	1	29	153	0	0
Cauliflower, green, cooked, salt	0.5 cup (1" pieces)	62	20	1	19	66	0	0
Beans, kidney, royal red, mature seeds, cooked,	1 cup	177	218	1	64	101	0	0
Wild rice, cooked	1 cup	164	166	1	195	156	0	0

Snacks

	Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Bananas, raw	1 large (8" to 8-7/8"	136	125	1	76	45	0	0

Total Energy Choice = 1701 kcals

total mg = 2211 3819 0 0

%Cal= 1.17% 2.02% 0.00% 0.00%

These overall choices will give 35% long 6 in your body's long total

KIM notes:
Your energy allowance is 1717 kcals
Your Weight seems OK

% long 6 in long total ==>>> 47% 58% 78%
Heart attack deaths/100,000 ==>>> 50 90 200

Modest Risk for Inflammation, Depression & Heart Attacks

[40% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 40% omega-6 and 60% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

Modest Risk for Inflammation, Depression & Heart Attacks

[50% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 50% omega-6 and 50% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

KIM Report by Meal Times For John Smith 40% Plan # 319 John Smith

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Cereals ready-to-eat, QUAKER, CAPN CRUNCH	0.75 cup	27	108	1	191	10	0	0	0
Milk, nonfat, fluid, with added vitamin A (fat free or	1 cup	245	86	1	12	5	0	0	0
Orange juice, raw	1 cup	248	112	1	72	27	0	0	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Potatoes, Russet, flesh and skin, baked	1 potato large (3"	299	290	1	96	30	0	0	0
Finfish, salmon, sockeye, canned, drained solids	1 can	369	565	1	314	723	1380	4550	
Broccoli, cooked, boiled, drained, without salt	1 stalk, medium	180	50	1	88	232	0	0	0
Collards, frozen, chopped, cooked, boiled, drained,	1 cup, chopped	170	81	1	102	216	0	0	0
Cauliflower, cooked, boiled, drained, with salt	0.5 cup (1" pieces)	82	14	1	31	104	0	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Beans, pinto, immature seeds, frozen, cooked,	0.333 package (10 oz)	94	152	1	93	166	0	0	0
Spinach, cooked, boiled, drained, without salt	1 cup	180	41	1	29	153	0	0	0
Beans, snap, green, cooked, boiled, drained, with	1 cup	125	44	1	70	111	0	0	0
Chicken, broilers or fryers, light meat, meat only,	0.5 chicken, bone	107	93	0.5	396	21	43	32	
Cheese, parmesan, grated	1 oz	28	85	0.5	45	49	0	0	0
Egg, whole, cooked, hard-boiled	1 large	50	78	1	594	18	75	22	
Tea, instant, sweetened with sugar, lemon-flavored,	1 serving (3	23	89	1	7	14	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Bananas, raw	1 large (8" to 8-7/8"	136	125	1	76	45	0	0	0
Ice creams, vanilla, rich	0.5 cup	107	259	1	396	257	0	0	0
Total Energy Choice = 2231 kcals					total mg = 2591 2181 1497 4803				
					%Cal= 1.05% 0.88% 0.60% 1.86%				

KIM notes:
Your energy allowance is 2210 kcals
Your Weight seems OK

These overall choices will give
40% long 6 in your body's long total
% long 6 in long total ==>>> 47% 58% 78%
Heart attack deaths/100,000 ==>>> 50 90 200

KIM Report by Meal Times For Horace Blank 50% Plan # 603 Horace Blank

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Bananas, raw	1 medium (7" to	118	109	1	66	39	0	0	0
Bread, cracked-wheat	1 slice, regular	25	130	2	324	17	0	0	0
Cereals ready-to-eat, GENERAL MILLS, HONEY	1 cup (1 NLEA	30	112	1	429	31	0	0	0
Butter, with salt	1 pat (1" sq, 1/3"	5	36	1	92	59	0	0	0
Milk, nonfat, fluid, without added vitamin A (fat free	1 cup	245	172	2	25	10	0	0	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Nectarines, raw	1 fruit (2-1/2" dia)	136	67	1	306	7	0	0	0
Cabbage, raw	1 cup, shredded	70	18	1	36	48	1	0	0
Cheese, cottage, nonfat, uncreamed, dry, large or	1 cup (not packed)	145	123	1	16	6	0	0	0
Pork, fresh, loin, top loin (roasts), boneless,	1 oz	28	40	1	130	6	17	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Vegetable oil, canola	1 tbscp	14	124	1	2842	1302	0	0	0
Corn, sweet, yellow, cooked, boiled, drained,	0.5 cup cut	82	89	1	481	15	0	0	0
Lima beans, immature seeds, canned, no salt	0.5 cup	124	88	1	117	56	0	0	0
New Zealand spinach, raw	1 cup, chopped	56	8	1	7	37	0	0	0
Potatoes, baked, flesh, without salt	1 potato (2-1/3" x	156	145	1	50	16	0	0	0
Carrots, raw	1 large (7-1/4" to	72	31	1	48	7	0	0	0
Finfish, snapper, mixed species, cooked, dry heat	1 fillet	170	218	1	43	0	75	583	
Chickpeas (garbanzo beans, bengal gram), mature	1 cup	164	269	1	1825	71	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Blueberries, raw	50 berries	68	38	1	67	46	0	0	0
Apples, raw, with skin	1 medium (2-3/4"	138	163	2	240	50	0	0	0
Snacks, pretzels, hard, confectioner's coating,	1 oz	28	130	1	564	45	0	0	0
Candies, fudge, chocolate, prepared-from-recipe	1 piece	17	140	2	100	26	0	0	0
Total Energy Choice = 2247 kcals					total mg = 7808 1890 93 583				
					%Cal= 3.13% 0.76% 0.04% 0.23%				

KIM notes:
Your energy allowance is 2250 kcals
Get more exercise

These overall choices will give
50% long 6 in your body's long total

% long 6 in long total ==>>> 47% 58% 78%
Heart attack deaths/100,000 ==>>> 50 90 200

Some Risk for Inflammation, Depression & Heart Attacks

[67% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 67% omega-6 and 33% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

KIM Report by Meal Times For Celeste Renoir 67% Plan # 583 Celeste Renoir

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Blueberries, raw	50 berries	68	38	1	67	46	0	0	0
Bread, mixed-grain, toasted (includes whole-grain,	1 slice	24	65	1	228	15	0	0	0
Cereals ready-to-eat, KELLOGG, KELLOGG'S	0.75 cup (1 NLEA	29	82	1	297	21	1	0	0
Butter, with salt	1 pat (1" sq, 1/3"	5	36	1	92	59	0	0	0
Milk, reduced fat, fluid, 2% milkfat, with added	1 cup	244	122	1	105	68	0	0	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Bread, cracked-wheat	1 slice	25	130	2	324	17	0	0	0
Oil, olive, salad or cooking	1 tbsp	14	119	1	1067	81	0	0	0
Pork, fresh, loin, tenderloin, separable lean only,	3 oz	85	159	1	417	9	34	0	0
Spinach, raw	1 cup	30	7	1	7	35	0	0	0
Mushrooms, raw	0.5 cup pieces	36	9	1	47	0	0	0	0
Lettuce, looseleaf, raw	0.5 cup, shredded	28	5	1	13	32	0	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Ice creams, chocolate	0.5 cup (4 fl oz)	66	143	1	165	99	0	0	0
Cheese, gruyere	1 slice (1 oz)	28	116	1	364	121	0	0	0
Asparagus, cooked, boiled, drained	4 spears (1/2"	60	14	1	77	4	0	0	0
Potatoes, boiled, cooked in skin, flesh, without salt	1 potato (2-1/2"	136	118	1	44	14	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Apples, raw, with skin	1 medium (2-3/4"	138	81	1	120	25	0	0	0
Candies, MOUNDS Candy Bar	1 package 1.9 oz	53	258	1	72	3	0	0	0
Cheese, cottage, nonfat, uncreamed, dry, large or	4 oz	113	96	1	12	5	0	0	0
Total Energy Choice = 1608 kcal					total mg = 3514 652 35 0				
Did you really plan enough food ?					%Cal= 1.97% 0.36% 0.02% 0.00%				

KIM notes:
Your energy allowance is 2112 kcal
Your Weight seems OK

These overall choices will give
67% long 6 in your body's long total

% long 6 in long total ==>>>	47%	58%	78%
Heart attack deaths/100,000 ==>>>	50	90	200

High Risk for inflammation, depression & heart attack

[81% omega-6 in precursors]

Plan to Prevent Problems

Eat more omega-3 - tuna, sardines, seafood

Less omega-6 - french fries, mayonnaise, potato chips

Fewer calories per meal.

This plan may keep 81% omega-6 and 19% omega-3 in tissue long-chain fats.

Download free menu planning software: <http://efaeducation.nih.gov/sig/kim.html>.

This meal plan was meant to be a 'healthy' way to reduce weight, but it failed to see the omega-6 intakes are much greater than omega-3. Like many USA diets with fried foods, mayonnaise and salad dressings, it keeps 81% of tissue "long" 3 and 6 hormone precursors as omega-6 rather than omega-3.

KIM Report by Meal Times For LowCarb-lowCal 81% Plan # 445

Breakfast		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
452 Frittata with Salsa	1 Serving	469	349	1	1401	254	71	21	0
Tea, brewed, prepared with tap water,	1 cup (8 fl oz)	237	2	1	2	7	0	0	0
Lunch		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Beef, chuck, tender steak, separable lean only,	3 oz (1 serving)	85	137	1	255	34	51	0	0
Lettuce, cos or romaine, raw	0.5 cup, shredded	28	4	1	9	21	0	0	0
Lettuce, looseleaf, raw	0.5 cup, shredded	28	5	1	13	32	0	0	0
Salad dressing, french, diet, low fat, 5 calories per	1 tbsp	16	43	2	960	128	0	0	0
Gelatin desserts, dry mix, reduced calorie, with	1 package (0.35	10	35	1	0	0	0	0	0
Dinner		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Cauliflower, cooked, boiled, drained, with salt	0.5 cup (1" pieces)	62	14	1	31	104	0	0	0
Beans, snap, green, cooked, boiled, drained,	1 cup	125	44	1	70	111	0	0	0
438 Garden Salad	1 Serving	295	179	1	1286	169	0	0	0
451 Lite Ricotta desert	1 Serving	65	92	1	118	44	0	0	0
Snacks		Serving Size	grams	kcal	Servings	Short 6	Short 3	Long 6	Long 3
Cheese, mozzarella, part skim milk	1 oz	28	144	2	190	78	0	0	0
447 Hummus	1 Serving	108	268	1	5137	133	0	0	0
Carrots, raw	1 cup, strips or	122	52	1	82	12	0	0	0
Celery, raw	1 cup, strips	124	20	1	86	0	0	0	0
Total Energy Choice = 1387 kcal					total mg = 9640 1128 122 21				
Did you really plan enough food ?					%Cal= 6.25% 0.73% 0.08% 0.01%				

KIM notes:
Your energy allowance is 2112 kcal
Get more exercise

These overall choices will give
81% long 6 in your body's long total

% long 6 in long total ==>>>	47%	58%	78%
Heart attack deaths/100,000 ==>>>	50	90	200

Interesting internet learning sites:

- **A useful interactive quiz about food servings** called "Portion Distortion" is hosted by the National Heart, Lung and Blood Institute (NHLBI) at <http://hin.nhlbi.nih.gov/portion/>.
- **Distant learning sites** describe health aspects of omega-3 fats at <http://ods.od.nih.gov/eicosanoids/> and <http://efaeducation.nih.gov/>
- **A structured eating and exercise plan** based on your goals and current physical condition is at <http://www.ishape.com>
- **Short 4-min talks** about how dietary essential fats form hormone-like eicosanoids that act in disease processes are at <http://efaeducation.nih.gov/sig/story1.ppt> and <http://efaeducation.nih.gov/sig/story2.ppt>
- **A simple calculator** for estimating the omega-3 and omega-6 balance in tissues when eating different foods is at <http://efaeducation.nih.gov/sig/dietbalance.html>
- **Rank-ordered lists** of the amounts of certain nutrients are at http://www.nal.usda.gov/fnic/foodcomp/Data/SR16/wtrank/wt_rank.html
- **The menu planning software, KIM-2**, used in making menus for this booklet is free from <http://efaeducation.nih.gov/sig/kim.html>, and is on the computers in the Morgan County Library.
- **A portal** to websites of multi-agency health activities of the U.S. Department of Health and Human Services and other Federal departments and agencies is hosted by the Office of Disease Prevention and Health Promotion at <http://www.health.gov>.
- **A related portal** is the healthfinder site: <http://www.healthfinder.gov/>
- **Health information** from the NIH Office of Dietary Supplements (<http://ods.od.nih.gov/>) and the National Center for Complementary and Alternative Medicine (<http://nccam.nih.gov/>) shows a variety of ideas for prevention and treatment.
- **WebMD** has useful information: <http://www.webmd.com/>
- **Learn about WeCan** for improving children's health and activity at the site: <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/>
- **Information on any biomedical topic** is accessed free from more than 17 million articles in the National Library of Medicine by internet link to <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi> Simply enter any term about which you are interested and survey the large number of published articles on that topic. A consumer-friendly version, called MedlinePlus, is at <http://www.nlm.nih.gov/medlineplus/>

Curious about Curiosity?

In 1743, Benjamin Franklin started the country's first forum where people could communicate their **records and interpretations of "all philosophical Experiments that let Light into the Nature of Things, tend to increase the Power of Man over Matter, and multiply the Conveniences or Pleasures of Life."** Then, the systematic study of Nature that we now call science and technology was called "natural philosophy" and the club was called the American Philosophical Society.

Its members included doctors, lawyers, clergymen, merchants, artisans and tradesmen like Franklin. They helped America's economic independence by improving agriculture, manufacturing, and transportation. They also helped prepare Lewis and Clark about scientific, linguistic, and anthropological aspects of their exploration of the Louisiana Territory.

In 2003, the Morgan County Forum for Arts, Sciences and Technologies (**FAST**) began community discussions to help all Morgan County residents find ways to "**let Light into the Nature of Things, tend to increase the Power of Man over Matter, and multiply the Conveniences or Pleasures of Life.**"

FAST is a tax-exempt, non-profit charitable corporation under IRS Code, Section 501(c)(3). It is supported by grants, donations, membership dues, and other income related to its purpose. Its primary mission is informal education to advance the use of arts, sciences and technologies in the daily lives of individuals in Morgan County. Future and past program information is at <http://www.fastlearner.org>.

FAST supports a wide range of informal learning experiences, including the "*Morgan County Menus*" booklet, community discussions of nutrition and health, Senior Life Services Center activities, internet access to WV codes and local government documents, 'Brain Games', the Very Short Video Contest, the Song Writing Contest, community music and theater projects, plus advanced training. The 2010 Morgan County Fair features over \$2,300 in awards for a Very Short Video Contest plus visiting with the well-known nutrition author, Evelyn Tribble.

Join **FAST**, contact us at wemlands@att.net and help us plan new **FAST** learning with a virtual museum website.