Optimal Health

- Nutrition
- Exercise and movement
- Sleep and relaxation
- Circadian rhythm
- Stress and resilience
- Relationships and networks
Core Imbalances

Physical/Emotional Stressors
- Standard American Diet (SAD)
- Sedentary
- Disconnected and Distracted (Technology)
- Stressed
- Lack of Sleep (loss of rhythm)
- Toxins - Environment/Meds
- Broken Spirit (lack of purpose)
- Isolated and Lack of Meaning

Biochemical Stressors -> BRAIN CHEMISTRY
- INFLAMMATION
- GLUCOSE/GLYCATION
- OXIDATIVE STRESS
- HORMONES (T/Cortisol)
- Detoxification
- Immune system

Courtesy of Sam Pappas. Used with permission.
High Prevalence of Mental Health Disorders

Mental disorders span the globe
According to surveys of 14 countries, the United States has the highest rate of mental illness.

Prevalence of mental disorders
(Axiety, mood disorders, impulse-control, and substance abuse/dependence)

- Netherlands - 14.9%
- Belgium - 12.0%
- Germany - 9.1%
- Ukraine - 20.5%
- United States - 26.4%
- Mexico - 12.2%
- Colombia - 17.8%
- France - 18.4%
- Spain - 9.2%
- Japan - 8.8%
- Lebanon - 16.9%
- Italy - 8.2%

SOURCE: World Health Organization

Prevalence of Mental Illness by Diagnosis

1.1%  2.6%  6.9%  18.1%
1 in 100 (2.4 million) American adults live with schizophrenia.¹
2.6% (6.1 million) of American adults live with bipolar disorder.¹
6.9% (16 million) of American adults live with major depression.¹
18.1% (42 million) of American adults live with anxiety disorders.¹

¹ Source: National Institute of Mental Health.
Cognitive Decline—Global Burden

A Growing Health Crisis
The projected number of people with dementia, millions


Courtesy of Sam Pappas. Used with permission.
Actual causes of death in 2013

Experts say diet has surpassed tobacco as having a leading cause of death.
Decline and Fall of the Greco-Roman Empire
Doctors Know Best?
Disease Care
Primary Prevention of Health Deterioration

What we call "health care" is really "disease care" and it is the fastest-growing failing business. It is primary prevention of health deterioration.

Dr. Emanuel Cheraskin
Mind and Body Connected

General medical rx
- Symptoms --->
- Measure physiology --->
- Anti-physiology rx --->
- Measure physiology and symptoms

Psychiatric rx
- Symptoms --->
- Anti-symptom rx ---->
- Measure symptoms

Dr. James Greenblatt
4 Horsemen of Aging

- GlUCOSE/Insulin Resistance
- INFLAMMATION
- OXIDATIVE STRESS
- STRESS (HORMONES)
Chronic Stress (Maladapted)

- Shrinks the brain/cognitive changes
- Sleep problems
- Depression/anxiety (lowers serotonin)
- Increases blood pressure
- Mineral loss
- Diabetes
- Increases belly fat
- Aches/bone loss/muscle wasting
- Digestive issues-Leaky gut
- Weakens immune system
- Reduces sex drive
- Lowers testosterone
- Lowers sperm production
- Changes gene expression
- Increases inflammation (CRP)

Dr. James Lavalle

Courtesy of Sam Pappas. Used with permission.
Metabolic Consequences of Disturbed Sleep

- Often precedes/associated with mental health problems
- Weight gain
- Increase fatigue
- Short term memory loss
- Increase cardiovascular disease
- Increase risk for diabetes
- Increase inflammation
- Impaired immune system
- Increase stress hormones (cortisol)
- Alteration in hormone balance - thyroid, insulin, leptin, ghrelin, HGH
- Lowers melatonin

Dr. James Lavalle
Inward Alienation

Most of us have forgotten that we are not only brain and will, senses and feelings; we are also spirit. Modern man has lost touch with the truest and highest aspect of himself; and the result of this inward alienation can be seen all too plainly in his restlessness, his lack of identity, and his loss of hope.

Bishop Kallistos Ware

Courtesy of Sam Pappas. Used with permission.
Man is more than the sum of his parts: Soma - Psyche - Pneuma
The Power of Food

- Food as Medicine
- Food as Energy/Calories
- Food as Entertainment
- Food as Culture
- Food as Joy
- Food as Spirit
- Food as Information
Food as Culture
Food as Spiritually Nutritive
Food as Information-Nutrigenomics
Michael Pollan-In Defense of Food

- Eat food, not too much, mostly from plants.
- Don't get your fuel from the same place your car does.
- Don't eat anything your great-grandmother wouldn't recognize as food.
- Eat food grown in a plant, not made in a plant.
- Pay more, eat less.
- You are what you eat eats too.
# Summary of Dietary Principles

Traditional diets *maximized* nutrients while modern diets *minimize* nutrients.

## Traditional Diets
- Foods from fertile soil
- Organ meats over muscle meats
- Animal fats
- Animals on pasture
- Dairy products raw and/or fermented
- Grains and legumes soaked/fermented
- Bone broths
- Unrefined sweeteners (honey, maple syrup)
- Lacto-fermented vegetables
- Lacto-fermented beverages
- Unrefined salt
- Natural vitamins in foods
- Traditional Cooking
- Traditional seeds/Open pollination

## Modern Diets
- Foods from depleted soil
- Muscle meats, few organs
- Vegetable oils
- Animals in confinement
- Dairy products pasteurized
- Grains refined, extruded
- MSG, artificial flavorings
- Refined sweeteners
- Canned vegetables
- Modern soft drinks
- Refined salt
- Synthetic vitamins added
- Microwave, Irradiation
- Hybrid seeds, GMO seeds

Courtesy of Sam Pappas. Used with permission.
The nascent field of “Nutritional Psychiatry” offers much promise for addressing the large disease burden associated with mental disorders.

Nutritional Psychiatry: Where to Next?
Felice N. Jacka

Abstract
The nascent field of ‘Nutritional Psychiatry’ offers much promise for addressing the large disease burden associated with mental disorders. A consistent evidence base from the observational literature confirms that the quality of individuals' diets is related to their risk for common mental disorders, such as depression. This is the case across countries and age groups. Moreover, new intervention studies implementing dietary
Long-term intake of vegetables and fruits and subjective cognitive function in US men

Changzheng Yuan, Elinor Fondell, Ambika Bhushan, Alberto Ascherio, Olivia I. Okereke, Francine Grodstein, Walter C. Willett

First published November 21, 2018, DOI: https://doi.org/10.1212/WNL.0000000000006684

Results Higher intakes of total vegetables, total fruits, and fruit juice were each significantly associated with lower odds of moderate or poor SCF after controlling for major nondietary factors and total energy intake. The association with total fruit intake was weaker after further adjusting for major dietary factors. In this model, the multivariate odds ratios (95% confidence intervals) for vegetable intake (top vs bottom quintile) were 0.83 (0.76–0.92), p trend <0.001 for moderate SCF and 0.66 (0.55–0.80), p trend <0.001 for poor SCF. For orange juice, compared to <1 serving/mo of intake, daily consumption was associated with a substantially lower odds of poor SCF (0.53 [0.43–0.67], p trend <0.001). Higher consumption of vegetables and fruits 18 to 22 years before SCF assessment was associated with lower odds of poor SCF independent of more proximal intake.

Conclusion Our findings support a long-term beneficial role of vegetable, fruit, and orange juice consumption on SCF.
Omega-3 Polyunsaturated Essential Fatty Acid Status as a Predictor of Future Suicide Risk

M. Elizabeth Sublette M.D., Ph.D.
Joseph R. Hibbeln M.D.Hanga Galfalvy Ph.D.
Maria A. Oquendo M.D.J. John Mann Ph.D.

Published Online: 1 Jun 2006

Abstract

Objective: Low levels of docosahexaenoic acid, a polyunsaturated fatty acid, and elevated ratios of omega-6/omega-3 fatty acids are associated with major depression and, possibly, suicidal behavior. Predicting risk of future suicidal behaviors by essential fatty acid status merits examination. Method: Plasma polyunsaturated fatty acid levels in phospholipids were measured in 33 medication-free depressed subjects monitored for suicide attempt over a 2-year period. Survival analysis examined the association of plasma polyunsaturated fatty acid status and pathological outcome. Results: Seven subjects attempted suicide on follow-up. A lower docosahexaenoic acid percentage of total plasma polyunsaturated fatty acids and a higher omega-6/omega-3 ratio predicted suicide attempt. Conclusions: A low docosahexaenoic acid percentage and low omega-3 proportions of lipid profile predicted risk of suicidal behavior among depressed patients over the 2-year period. If confirmed, this finding would have implications for the neurobiology of suicide and reduction of suicide risk.

Short-term supplementation of acute long-chain omega-3 polyunsaturated fatty acids may alter depression status and decrease symptomology among young adults with depression: A preliminary randomized and placebo controlled trial

Annie T. Ginty a,⁎, … Sarah M. Conklin b

https://doi.org/10.1016/j.psychres.2015.05.072

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Highlights

Study examined effects of omega-3 fatty acids on depressed undergraduates.

Randomized double blind placebo controlled trial.

The treatment group had a significant reduction in depression symptomology.

67% of treatment group no longer met criteria for depression after supplementation.
**Figure 1:** Overview of links between Mediterranean-style diet and healthy brain function via plant compounds and nutrients.

- **Healthy Mediterranean-style diet**
  - Olive oil
  - Fresh fruit/veg
  - Fish
  - Legumes, nuts, seeds, cereals
  - Moderate red wine intake
- **MUFA (oleic acid)**
- **Polyphenols**
- **Vitamins A, B, C, E**
- **‘Vitamin’ D**
- **Omega-3 PUFA**
- **Minerals (e.g. iron, iodine, zinc)**
- **Amino acids**

- **Healthy Brain**
  - ↑ neuronal survival
  - ↑ energy metabolism
  - ↑ neurotrophins
  - ↓ oxidative damage/cell death
  - ↓ neuroinflammation
  - ↑ neurotransmission
  - ↑ membrane fluidity
  - ↑ cell membrane integrity
  - ↑ glucose transport
  - ↑ nutrient synthesis/metabolism
  - ↑ gene expression
  - ↑ methylation
  - ↓ blood pressure

Courtesy of Sam Pappas. Used with permission.
Med Diet and Cognitive Health

- Reduce CV risk factors
- Improve Metabolic Markers
- Reduce Inflammation
- Reduce Oxidative Stress

- Monounsaturated Fats
- Polyphenols and Antioxidants
- Vitamins and Minerals

Components of the Mediterranean diet and potential mechanisms that influence cognitive health.
Which Mediterranean Diet?

‘I’m not sure that’s the Mediterranean diet your GP had in mind’
The traditional Mediterranean Diet is the heritage resulting from millennia of exchanges within the Mediterranean basin region that has defined and characterized the eating habits of the countries in those regions until the mid twentieth century. It is not a homogeneous model throughout the Mediterranean as it has regional variations.
Food and Family

The Mediterranean Diet encompasses more than just food. It promotes social interaction, because communal meals are the cornerstone of social customs and festive events.
Cooking Is a Revolutionary Act

The cure for what ails us—both in our bodies and in our nation—can be found in the kitchen. It is a place to rebuild community and connection, strengthen bonds with family and friends, teach life-giving skills to our children, enrich and nourish our bodies and souls. Yet in the 21st C, our kitchens and taste buds have hijacked by the food industry. In 1900 only 2 percent of meals were eaten outside the home, today the number is over 50 percent.

Mark Hyman MD
Mediterranean Diets?

- Mediterranean diet-misnomer
- Different diets, religions, and cultures
- Differ in:
  - amount of fats and olive oil
  - type of meat and wine intake
  - milk vs. cheese
  - fruits and vegetables
  - rates of heart disease, cancer, and longevity
  - Greece-Spain-Southern Italy
  - Greece-longer life expectancy and lower death rates
Greece & Geography

- Favored crops that required relatively little hydration

- The Mediterranean Triad
  - Olives
  - Grape
  - Grains-Barley/Wheat
Mediterranean Diet = Pre-1960 Greek Diet

- High intake of plant foods
  - Veggies and Fruits
  - Nuts
  - Grains - sourdough bread rather than pasta
  - Legumes
- More olives and olive oil
- More cheese but less milk
- More fish
- Less meat
- Moderate amounts of wine
- Lower saturated fats (cultural dislike)
Minoan Civilization-Crete

Fertile-support large population
Interaction with Near East/Islands

Squid, Fish
Sheep, goats, pigs, cattle
Wild game
Veggies - wild greens, purslane
Beans - lentils, fava
Grains - wheat, barley, rye, spelt
Grapes
Olives
Goat cheese, honey
No Tomatoes or Potatoes
The Mediterranean Diets: What Is So Special about the Diet of Greece?
The Scientific Evidence

Artemis P. Simopoulos
The Center for Genetics, Nutrition and Health, Washington, DC


GORDURA DIETÉTICA: 37% DA ENERGIA TOTAL CONSUMIDA
Bioprotective Nutrients

- Omega 6 to 3 ratio
  - Paleolithic  1:1
  - Greece < 1960  2:1
  - Japan  4 :1
  - UK/Northern Europe  15 :1
  - USA  16:1

- High Omega 3 adds key protection—not only the EVOO, wine, fruits and veggies

- Antioxidants and polyphenols - EVOO, glutathione, resveratrol, selenium, tyrosol
Olive Oil and Brain Health

EVOO reduces risk of dementia
- Protects memory and learning
- Clears out brain toxins
- Reduces formations of plaques and tangles

BENEFITS ARE DERIVED FROM CONSUMING WITH FOOD

Courtesy of Sam Pappas. Used with permission.
Bioprotective Nutrients-Polyphenols

OLIVE OIL

<table>
<thead>
<tr>
<th>Taste</th>
<th>Polyphenols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Bitter</td>
<td>&gt; 410 mg/kg</td>
</tr>
<tr>
<td>Bitter</td>
<td>340 – 410 mg/kg</td>
</tr>
<tr>
<td>Lightly Bitter</td>
<td>220 – 340 mg/kg</td>
</tr>
<tr>
<td>Non Bitter</td>
<td>&lt; 220 mg/kg</td>
</tr>
</tbody>
</table>

Data courtesy of Sam Pappas. Used with permission.
Omega 6/3 ratio-Bad/Good Fats

Cut Down Omega-6 & Boost Your Omega-3

![Bar charts showing the ratio of Omega-3 to Omega-6]

- What we suppose to Eat (Ratio 1:2)
  - Omega-3
  - Omega-6

- What we actually to Eat (Ratio 1:20)
  - Omega-3
  - Omega-6

<table>
<thead>
<tr>
<th>Population</th>
<th>(\omega 6/\omega 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paleolithic</td>
<td>0.79</td>
</tr>
<tr>
<td>Greece prior to 1960</td>
<td>1.00–2.00</td>
</tr>
<tr>
<td>Current Japan</td>
<td>4.00</td>
</tr>
<tr>
<td>Current India, rural</td>
<td>5–6.1</td>
</tr>
<tr>
<td>Current United Kingdom and northern Europe</td>
<td>15.00</td>
</tr>
<tr>
<td>Current United States</td>
<td>16.74</td>
</tr>
<tr>
<td>Current India, urban</td>
<td>38–50</td>
</tr>
</tbody>
</table>

Courtesy of Sam Pappas. Used with permission.
Omega 3 Fats

- Myzithra and Feta cheese
- Purslane - glystrida
- Walnuts - karidia

It’s no coincidence that a walnut looks like a brain! Walnuts are rich in omega-3 fatty acids which can promote brain health and cognition.

 Courtesy of Sam Pappas. Used with permission.
Brain and Healthy Fats

Omega-3 Fatty Acids in Brain and Neurological Health

Courtesy of Sam Pappas. Used with permission.
Benefits of DHA and EPA
Fish and Fish Oil

Beneficial effects of EPA and DHA

Fish Oil

Immunity

Inflammation

CVD & Hypertension

Depression

Obesity

Cancer

Aging

Diabetes

Kidney Health

Heart Health

Brain Health & Development

Maternal Health

Fertility

Healthy Brain aging

↑ Cognition
↑ Lifespan
↑ Cardiometabolic risk
↑ Life quality

Unhealthy Brain aging

↓ Cognition
↓ Lifespan
↓ Neurodegeneration
↓ Brain disease

Courtesy of Sam Pappas. Used with permission.
Omega-3 index - biomarker of cardiovascular health

Harris & Von Schacky, 2004

How much fish oil is in your red blood cells?

Physicians' Health Study

Red Blood Cells

90% reduction in risk

Relative Risk

0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

Blood Omega-3 FA (%) by Quartile

3.9% 5.1% 6.0% 7.3%


Those with the best Omega 3 Index had up to a 90% decrease in DEATH FROM A SUDDEN HEART ATTACK
The Potential for Military Diets to Reduce Depression, Suicide, and Impulsive Aggression: A Review of Current Evidence for Omega-3 and Omega-6 Fatty Acids

CAPT Joseph R. Hibbeln, MD, USPHS‡; Rachel V. Gow, PhD†

ABSTRACT The current burden of psychological distress and illness poses as a significant barrier to optimal force efficacy. Here we assess nutrients in military diets, specifically highly unsaturated essential fatty acids, in the reduction of risk or treatment of psychiatric distress. Moderate to strong evidence from several meta-analyses of prospective cohort trials indicate that Mediterranean diet patterns reduce risk of clinical depressions. Specific nutrients and foods of biological interest in relation to mental health outcomes are then discussed and evaluated. Moderate evidence indicates that when fish consumption decreases and simultaneously omega-6 increases, the risk of clinical depressive symptoms are elevated. One meta-analysis examining tissue compositions provides moderate to strong evidence that higher levels of omega-3 highly unsaturated fatty acids (HUFAs) (eicosapentaenoic acid, docosapentaenoic acid, and docosahexaenoic acid) are associated with decreased risk of clinical depressions. Other meta-analytic reviews of randomized placebo-controlled trials provide moderate to strong evidence of significantly improving clinically depressive symptoms when the formulation given was >50% in eicosapentaenoic acid. Finally, a meta-analysis of omega-3 HUFAs provides modest evidence of clinical efficacy for attention-deficit hyperactivity disorder. This article recommends that a rebalancing of the essential fatty acid composition of U.S. military diets, achieve tissue compositions of HUFAs consistent with traditional Mediterranean diets, may help reduce military psychiatric distress and simultaneously increase force efficacy substantially.

INTRODUCTION determine as methods across studies vary widely. Emerging
Do we really need a study on the Med.Diet?

"We should believe the truth we have experienced, then try to understand and explain what we have believed"

Scotus
9th C theologian
Depression

Mediterranean diet tied to lower risk of depression

Published: Thursday 27 September 2018
Written by: Catharine Paddock PhD
PREDIMED and STROKE

PREDIMED

- Spanish trial, 7400 pts 55-80 yo
- Western Diet vs Med Diet
- Med Diet
  - 1.Olive Oil
  - 2. Nuts (walnuts, hazelnuts, almonds)
- Stopped after 5 yrs - both MDiet groups 70% decr. STROKE, heart attack, or death

Courtesy of Sam Pappas. Used with permission.
PREDIMED & BRAIN

- 285 pt subset
- Followed for 6.5 years
- EVOO group-
  - Better fluency
  - Improved memory tasks
  - Improved MCI
Mediterranean diet may slow development of Alzheimer’s disease

At a Glance

- Researchers found that eating a Mediterranean diet slows some changes in the brain that may indicate early Alzheimer’s disease.
- The results point to a lifestyle change that could help reduce the risk of this type of age-related dementia.

PET scans show the higher brain activity of a 50-year-old woman on a Mediterranean-style diet (left, image shows more red, which indicates higher activity) and a 50-year-old on a Western diet most of her life (right, image shows much less red). Arrows point to areas that are typically affected by Alzheimer’s disease, with lower activity for Western diet. 

/Weill Cornell Medicine

Alzheimer’s disease is the most common type of dementia that occurs with aging. Experts estimate that more than 5 million Americans are currently living with the disease. But scientists know little about what lifestyle factors might protect people against developing Alzheimer’s disease. They do know that brain changes associated with the disease can occur decades before symptoms are seen.
Ketogenic Diet

KETOGENIC DIET
SHOWS PROMISE FOR TREATING:
ALZHEIMER’S
PARKINSON’S
EPILEPSY
AUTISM
DEPRESSION
MIGRAINES
CANCER
NATIONAL INSTITUTE
OF HEALTH

Ketogenic Diet

To Lose weight, eat diet foods from the base of the pyramid—lean protein, leafy greens, vegetables, and healthy oils.

As you get closer to your goal; moving up the pyramid—and up your options—fiber-rich fruits, dairy, nuts, legumes and whole grains. See any added sugar or trans fats? Neither do we.

With Atkins, activity means success, and even more food options. So get active, and enjoy even more variety.

Vegetables such as spinach, cucumbers, carrots, and broccoli.

Protein sources such as chicken, fish, beef, turkey, and eggs.

Whole grains such as oats, quinoa, and brown rice.

Vegetable oils such as canola, sunflower, and olive.

Typical American diet

Atkins (induction phase)

Classic ketogenic diet 4:1

MCT ketogenic diet

Carbohydrate ☐ Protein ☐ Dietary fat ☐ MCT oil

Courtesy of Sam Pappas. Used with permission.
Reversal of cognitive decline: A novel therapeutic program

Dale E. Bredesen,1,2

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2 Buck Institute for Research on Aging, Novato, CA 94945.

Key words: Alzheimer’s, dementia, mild cognitive impairment, neurobehavioral disorders, neuroinflammation, neurodegeneration, systems biology

Received: 9/13/14; Accepted: 9/26/14; Published: 9/27/14
Correspondence to: Dale E. Bredesen, MD. E-mail: dbredesen@mednet.ucla.edu; dbredesen@buckinstitute.org

Abstract: This report describes a novel, comprehensive, and personalized therapeutic program that is based on the underlying pathogenesis of Alzheimer’s disease, and which involves multiple modalities designed to achieve metabolic enhancement for neurodegeneration (MEND). The first 10 patients who have utilized this program include patients with memory loss associated with Alzheimer’s disease (AD), amnestic mild cognitive impairment (aMCI), or subjective cognitive impairment (SCI). Nine of the 10 displayed subjective or objective improvement in cognition beginning within 3-6 months, with the one failure being a patient with very late stage AD. Six of the patients had to discontinue working or were struggling with their jobs at the time of presentation, and all were able to return to work or continue working with improved performance. Improvements have been sustained, and at this time the longest patient follow-up is two and one-half years from initial treatment, with sustained and marked improvement. These results suggest that a longer, more extensive trial of this therapeutic program is warranted. The results also suggest that, at least early in the course, cognitive decline may be driven in large part by metabolic processes. Furthermore, given the failure of monotherapies to date, the results raise the possibility that such a therapeutic system may be useful as a platform on which drugs that would fail as monotherapies may succeed as key components of a therapeutic system.

INTRODUCTION

Magnitude of the problem

Cognitive decline is a major concern of the aging population, and Alzheimer’s disease is the major cause of age-related cognitive decline, with approximately 5.4 million American patients and 30 million affected globally.1 In the absence of effective prevention and treatment, the prospects for the future are of great concern, with 13 million Americans and 160 million globally projected for 2050, leading to potential bankruptcy of the Medicare system. Unlike several other chronic illnesses, Alzheimer’s disease prevalence is on the rise, which makes the need to develop effective prevention and treatment increasingly pressing. Recent estimates suggest that AD has become the third leading cause of death in the United States.2 Behind cardiovascular disease and cancer. Furthermore, it has been pointed out recently that women are at the epicenter of the Alzheimer’s epidemic, with 65% of patients and 60% of caregivers being women [3]. Indeed, a woman’s chance of developing AD is now greater than her chance of developing breast cancer [4].

Failure of monotherapies

Neurodegenerative disease therapeutics has been, arguably, the field of greatest failure of biomedical therapeutics development. Patients with acute illnesses such as infectious diseases, or with other chronic illnesses, such as cardiovascular disease, osteoporosis, human immunodeficiency virus infection, and even cancer, have access to more effective therapeutic options than do patients with AD or other neurodegenerative diseases such as Lewy body

www.impactaging.com

AGING, September 2014, Vol. 6 No.9

707

Courtesy of Sam Pappas. Used with permission.
FASTING

BRAIN HEALTH BOOSTING BENEFIT
“I fast for greater physical and mental efficiency”

PLATO
Eastern Orthodox Fasting—Secret to Greek Health?

- 180-200 days/year (Vegan/Vegetarian)
  - 2x/week
  - 40 d before Christmas
  - 48 d Lent
  - 14 d August

- Lent
  - No meat, fish, dairy
  - Palm Sunday-fish ok
  - Sat and Sun-wine, oil, shellfish

- Christmas
  - Fish ok

- Spiritual Fast—”Men does not live by bread alone”

Courtesy of Sam Pappas. Used with permission.
Mediterranean Diet-summary

- Diet vs Pattern of Eating
- Embraced by many people in the olive-growing areas of the Med. Sea
- Patterns have decreased over last 60 yrs
- Abundant plant foods
  - F,Veggies, whole grains, legumes, nuts, seeds, potato
- Fresh fruit daily dessert
- EVOO-principal fat
- Cheese and yogurt-dairy (goat, sheep, cows)

- Fish-moderate to high amounts
- Poultry mod to small (animal prtn)
- Weekly consumption eggs
- Low to moderate red wine intake
- Rare red meat
- Overall minimally processed, seasonally fresh, locally grown foods
- Bioprotective nutrients and plant proteins
- Social and environmental context of meals -FAMILY and VILLAGE
- Fasting
- **High compliance rate-trials**
Ikaria-Island Where People Forgot to Die

- Isolated and self-reliant since Ancient times
- No attention to time
- Disinterest in material wealth
- Beans 6x/week
- Barley and Rye >> wheat (until 1970s)
- Potatoes and taro
- Gardens of longevity-wild greens (10x antioxidants of wine)
- Coffee and Wine daily
- Geography-Mineral baths
- The Village→ FAMILY

Courtesy of Sam Pappas. Used with permission.
Modern-day Shangri-La

They live well—with little cancer, cardiovascular disease, DEMENTIA, or other age-related ailments—drinking wine, enjoying sex, walking, gardening, and socializing.

In other words, being very much alive, in their veritable modern-day Shangri-La

Diane Kochilas
The Real Mediterranean Diet Lifestyle
Diet or Lifestyle?

- Physically active
- Many periods of fasting (average every 4 days)
- Optimistic view of life
- Family ties are strong-meals enjoyed with multiple generations
- Special time is usually set aside daily to relax the body and mind

We should look for someone to eat and drink with before looking for something to eat and drink.

Epicurus
No citizen has a right to be an amateur in the matter of physical training.

What a disgrace it is for a man to grow old without ever seeing the beauty and strength of which his body is capable.

Socrates
469 - 399 BCE
Exercise as an Obligation to Life

I train like I’m training for the Olympics or for a Mr. America contest, the way I’ve always trained my whole life. You see, **life is a battlefield.** Life is survival of the fittest. How many healthy people do you know? **My workout is my obligation to life.** It’s my tranquilizer, it’s part of the way I tell the truth.

Courtesy of Sam Pappas. Used with permission.
Benefits of exercise

- Strengthens all tissues in body
- Extends lifespan
- Improves sleep
- Protects against the negative physical effects of stress
- Improves heart fxn./Lowers BP
- Prevents memory loss
- Enhances mood/decr.depression
- Improves immune system
- Optimizes glucose regulation
- Increases goal-oriented behavior
- Improves libido

Do not pray for easy lives. Pray to be stronger men.
Physical exercise and activity may be important in reducing dementia risk at any age

Publication
Neurology

Author(s)
James A. Mortimer, PhD, and Yaakov Stern, PhD

Lifestyle and neurocognition in older adults with cognitive impairments

Publication
Neurology

Author(s)
James A. Blumenthal, PhD, Patrick J. Smith, PhD, Stephanie Mabe, MS, Alan Hinderliter, MD, Pao-Hwa Lin, PhD, Lawrence Liao, MD, Kathleen A. Welsh-Bohmer, PhD, Jeffrey N. Browndyke, PhD, William E. Kraus, MD.
Sweating in sauna might help keep brain healthy: Finnish study

FILE PHOTO: A man leaves a sauna during the Belarusian winter swimming championship in Minsk, Belarus December 18, 2016.

REUTERS/VASILY FEDOSENKO/FILE PHOTO

Sauna bathing is inversely associated with dementia and Alzheimer's disease in middle-aged Finnish men

Tanjaniina Laukkanen, Setor Kunutsor, Jussi Kauhanen, Jari Antero Laukkanen


Published: 08 December 2016
The Greek Miracle—Ancient Path to Wellness

- Healthy mind, body, and spirit were nurtured (tuned) via:
  - rigorous physical exercise
  - strict diet
  - daily meditational walks
  - lessons on ethics and character
  - contemplation on math, music, philosophy, cosmology, and philosophy

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Hippocrates and Positive Health

Positive health requires a knowledge of man’s primary constitution and of the powers of various foods. But eating alone is not enough for health. There must be exercise. The combination of these two makes regimen:

When proper attention is given to the season of the year, the changes of the winds, the age of the individual, and the situation of his home health occurs.