Better Health, Reduced Costs and Higher Doctor Pay ... Can We Really Have It All?

Michael Klaper, M.D.
Caterina Lindman, FCIA
Ken Beckman, ASA, ACAS, MAAA, CFA
13 February 2019
Disease Reversal with Plant-Based Diets and Healthy Lifestyles

Michael Klaper, M.D.

www.DoctorKlaper.com
Once you look behind the curtain...
You can’t pretend you don’t know what is behind the curtain...
A TALE OF TWO WORDS:
A TALE OF TWO WORDS:

TWO WORDS THAT MADE ME FEEL POWERLESS DURING MUCH OF MY MEDICAL CAREER:
ETIOLOGY UNKNOWN?
Diseases most Western doctors treat most of the time...

Obesity
Hypertension
Hyperlipidemia
Type 2 diabetes
Atherosclerotic Vascular Disease
Asthma
Crohn’s and colitis
Inflammatory joint disease
Auto-immune diseases
Instead of “curing” diseases, we “manage”

Obesity
Hypertension
Hyperlipidemia
Type 2 diabetes
Atherosclerotic Vascular Disease
Asthma
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ETIOLOGY UNKNOWN?
REALLY?
IN MY 40+ YEARS OF MEDICINE...

THE WESTERN DIET HAS CHANGED

FROM

TO THIS

THIS
ENTERED MEDICAL SCHOOL
### Comparison of American Diet

<table>
<thead>
<tr>
<th></th>
<th>1910</th>
<th>2010</th>
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<tbody>
<tr>
<td>Processed sugar</td>
<td>5 lbs./year</td>
<td>141.5 lbs./year</td>
</tr>
<tr>
<td>Cheese</td>
<td>2 lbs./year</td>
<td>30 lbs./year</td>
</tr>
<tr>
<td>Fat</td>
<td>4 lbs./year</td>
<td>74 lbs./year</td>
</tr>
<tr>
<td>Meat</td>
<td>140 lbs./year</td>
<td>210 lbs./year</td>
</tr>
<tr>
<td>Whole fruits &amp; vegetables</td>
<td>131 lbs./year</td>
<td>11 lbs./year</td>
</tr>
<tr>
<td>Calories</td>
<td>2100/day</td>
<td>2757/day</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>(zero)</td>
<td>53 gallons/year</td>
</tr>
</tbody>
</table>

Source: USDA, FoodReview: Food Trends - a Century in Review
We’ve become a fast-food nation…
Percentage of Overweight People - 2014

Percentage of Obese People - 2014
ENTERED MEDICAL SCHOOL
Diseases most Western doctors treat most of the time…

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Type 2 diabetes

Atherosclerotic Vascular Disease

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Inflammatory joint disease

Auto-immune diseases

ETIOLOGY UNKNOWN?
TRUE NORTH HEALTH CENTER

SANTA ROSA, CALIFORNIA
(707) 586-5555
HealthPromoting.com
Changing the food stream to one mostly or completely based on whole plant foods has profound effects...
IT CHANGES THE ENTIRE PHYSIOLOGY OF THE BODY

Blood chemistry, urine chemistry, micro-biome, immune system, inflammatory molecules, acid-base balance, etc.
IT CHANGES THE ENTIRE PHYSIOLOGY OF THE BODY - AND THE RESULTS ARE OFTEN NOTHING SHORT OF SPECTACULAR

Blood chemistry, urine chemistry, micro-biome, immune system, inflammatory molecules, acid-base balance, etc.
IN EVEN A FEW WEEKS, THE DIFFERENCE SHOWS
- AFTER 90 DAYS OF HEALTHY EATING,
  THE DIFFERENCE IS DRAMATIC!

Emily lost 100 lbs and lowered her cholesterol
TWO WORDS
with a novel, hopeful concept:
TWO WORDS
with a novel, hopeful concept:

DISEASE REVERSAL
REVERSIBLE DISEASES!

Obesity
Type 2 diabetes
Atherosclerotic Vascular Disease
Hypertension
Hyperlipidemia
Asthma
Crohn’s and colitis
Inflammatory joint disease
Auto-immune diseases
NUTRITIONAL
REALITY
CHECK AHEAD

I WISH I HAD LEARNED ABOUT THE EFFECT OF THE DAILY DIET UPON THE BODY
POST-PRANDIAL LIPEMIA
POST-PRANDIAL LIPEMIA

NOT EVERYONE SHOWS THE FAT AS OPTICALLY DENSE AS THIS, BUT EVERYONE HAS A WAVE OF FAT SURGE THROUGH THEIR ARTERIES AFTER A FATTY MEAL.
A TYPICAL DAY OF THE STANDARD WESTERN DIET
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A TYPICAL DAY OF THE STANDARD WESTERN DIET
MOST WESTERNERS KEEP THEIR BLOODSTREAM FILLED WITH FAT, SALT AND SUGAR – ALL DAY!
There’s much more than fat in that blood!
SAT - Increases blood viscosity -> High BP
capillary bed sludging -> tissue hypoxia
FATS - Increase body fat – obesity
Increase insulin resistance – T2DM
Increase inflammation

EXCESS SODIUM – Retain fluid -> High BP
Stiffen artery walls -> High BP
Trigger auto-immune diseases?

SUGARS – Advanced Glycation End Products ("AGEs") damage eyes, skin, blood vessels, etc.
MEAT-SPECIFIC TOXINS

- Oxidized proteins & fats - reactive aldehydes
  
  Malondialdehyde, glyoxal, acrolein, etc. - mutagens!

- Neu5Gc - pro-inflammatory sialic acid

- Endotoxins - HEAT STABLE!

- TMAO from carnitine metabolism

- Carcinogenic heterocyclic amines

- Advanced Glycation Endproducts

- Bio-concentrated pesticides, herbicides, heavy metals, hormones and antibiotics
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RUNNING THIS MIXTURE THROUGH THE ARTERIES SEVERAL TIMES A DAY CAN HAVE DISASTROUS CONSEQUENCES!
Relentlessly progressive?
Medical Questions of the Day

• How high is your cholesterol?
• How is your TC/HDL ratio?
• What is your cholesterol particle size?
• What dose of statin are you on?

All these questions miss the point!
The Question is NOT, “How high is your cholesterol?”

The question is, “How healthy are your arteries?”
ATHEROSCLEROTIC PLAQUES ARE NOT JUST GLOBS OF GREASE THAT STICK TO THE ARTERY WALLS - THEY ARE INFLAMMATORY LESIONS INCITED BY ENDOTHELIAL INJURY & OXIDIZED CHOLESTEROL.
REVERSIBLE! …through whole food, plant-based diets and stress reduction.
WHOLE FOOD PLANT-BASED diet

A PLAQUE-REVERSING DIET!
PLAQUES STABILIZE – AND HEAL!
Low-fat, moderate-protein, high-carbohydrate diet

Endothelial progenitor cells
Reversal of Coronary Disease

November 27, 1996

Distal LAD
Reversal of Coronary Disease

November 27, 1996

July 22, 1999

Distal LAD
Baseline Cholesterol
10-14 days
261 mg/dl

Left
Before Rx

Right
After Rx

Baseline Cholesterol
10-14 days
126 mg/dl

Esselstyn 2007
DIESEL FUEL IS ESSENTIALLY KEROSENE.

IT DOES NOT BURN CLEANLY IN A GASOLINE BURNING ENGINE.

THE RESULT IS PREDICTABLE
MY CAR HAS DEVELOPED A DISEASE!
The True Origin of Chronic Illness

- Headaches
- Allergies
- Hypertension
- High Blood Pressure
- Heart Failure
- Chronic Lung Disease
- Arthritis

Lipemic Serum

BAXTER MONTGOMERY, M.D.
CARDIOLOGIST
HOUSTON, TX
The blind men and the elephant
The “nutritionally-blind” doctors and their understanding of diseases...

- **Endocrinologist** manages the T2 Diabetes
- **Cardiologist** manages the Atherosclerosis
- **Physiatrist** manages the inflammatory arthritis
- **Rheumatologist** manages the autoimmune diseases
- **Neurologist** manages the strokes & dementia
- **Gastroenterologist** manages the IBD
- **Dermatologist** manages the psoriasis and urticaria
- **General Surgeon** manages the diverticulitis & colon cancer
- **Cardiologist** manages the atherosclerosis
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The “nutritionally-blind” doctors and their understanding of diseases...

ETIOLOGY UNKNOWN?
The “nutritionally-blind” doctors and their understanding of diseases...

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This diagram illustrates the various specialists and their roles in managing different diseases, emphasizing the importance of understanding the role of nutrition in disease management.
“WHAT YOU KNOW ABOUT, YOU SEE…”

- Goethe
The “nutritionally-blind” doctors and their understanding of diseases...

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Image of a meal with fast food, symbolizing the nutritionally-blind approach to diseases.
A whole food, plant-based can arrest and reverse these diseases...

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OLD MODEL of NUTRITION
OLD MODEL of NUTRITION

CARBOHYDRATES = ENERGY

(via KREBS CYCLE -> ATP, etc.)
OLD MODEL of NUTRITION

CARBOHYDRATES = ENERGY

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PROTEIN = STRUCTURAL COMPONENTS and ENZYMES
OLD MODEL of NUTRITION

CARBOHYDRATES = ENERGY

(via KREBS CYCLE -> ATP, etc.)

PROTEIN = STRUCTURAL COMPONENTS and ENZYMES

FATS = ENERGY STORAGE
OLD MODEL of NUTRITION

CARBOHYDRATES = ENERGY
  (via KREBS CYCLE - ATP, etc.)

PROTEIN = STRUCTURAL COMPONENTS and ENZYMES

FATS = ENERGY STORAGE
Our food is chemically “alive”

- and it plays our DNA like a piano…
Nutrigenomics
the study of the effects of foods and food constituents on gene expression.
“Turning Off” Cancer-Causing Genes by Intensive Lifestyle Changes
(red = turned on; green = turned off)

Pre-intervention          Post-intervention

| CPNE8 | PPIC | CHMP2A | TRAK2 | FNBP1L | VPS35 | MTMR2 | CSNK1G3 | AP1G1 | SNAP25 | CSNK1A1 | KIFC3 | RAN | RAB8A | CHML | CLTA | EXOC6 | COPB2 | RAMP1 | MAL2 | NLN | RAB14 | KPNB1 | ARHGGEF1 | POM121 | VCP | MTMR9 | DLC1 | MTAC2D1 | STX17 | PPIB |
|-------|------|--------|-------|--------|-------|-------|--------|-------|--------|--------|-------|-----|-----|------|------|------|-------|-------|-------|------|-----|------|------|-----------|-------|-----|-------|------|---------|-------|-----|-------|------|---------|-------|-----|
You don’t need to be a geneticist to understand that the genes that will be turned on by this fuel mixture.
will be very different genes than those turned on by this fuel mixture

**Phyto-chemicals:**
- Polyphenols
- Genistein
- Curcumin
- Resveratrol
- Gingerol
- Sulforaphane
- Isothiocyanates
- Silymarin
- Diallyl sulfide
- Lycopene
- Rosmarinic acid
- Apigenin
MEAT-SPECIFIC TOXINS
- Oxidized fats & proteins -> reactive aldehydes
- Neu5Gc - pro-inflammatory sialic acid
- Endotoxins - HEAT STABLE!
- TMAO from carnitine metabolism
- Carcinogenic heterocyclic amines
- Advanced Glycation Endproducts
- Bioconcentrated pesticides, herbicides, heavy metals, hormones and antibiotics

You don’t need to be a geneticist to understand that the genes that will be turned on by this fuel mixture lead to:
AGING
INFLAMMATION
AUTO-IMMUNITY
CANCER
Phyto-chemicals:

- Polyphenols
- Genistein
- Curcumin
- Resveratrol
- Sulforaphane isothiocyanates
- Silymarin
- Diallyl sulfide
- Lycopene
- Rosmarinic acid
- Apigenin
- Gingerol
EACH MEAL CHANGES US…

“Nutrigenomics”

Food

Epigenetics (Neu5Gc)

Intestinal microbiome (TMAO, etc.)

Enzyme induction

inflammation,

membrane permeability,

other effects
Nutrigenomics

“Your genes may load the gun, but your diet and your lifestyle pulls the trigger…”
CHANGES THE ENTIRE PHYSIOLOGY OF THE BODY - AND THE RESULTS ARE OFTEN NOTHING SHORT OF SPECTACULAR

Blood chemistry, urine chemistry, micro-biome, immune system, inflammatory molecules, acid-base balance, etc.
DISEASE REVERSAL IN GASTROENTEROLOGY
Abstract

Crohn's disease is a complex inherited disorder of unknown pathogenesis with environmental, genetic and microbial factors involved in the development of the disease. A remarkable feature of this disease in childhood is the effective response to exclusive enteral nutrition (EEN) therapy and the need for complete exclusion of normal diet required for success (principle of exclusivity). EEN or dietary interventions might act through removal of dietary components, which affect microbial composition, decrease a proinflammatory response and promote restitution of the epithelial barrier, likewise allowing termination of this vicious disease-forming cycle before a critical threshold is reached. Multiple traditional and nontraditional dietary components may affect the microbiome, mucous layer, intestinal permeability, or adherence and translocation of pathobionts. We review the epidemiological data, as well as data from animal models and cell lines, and propose a model for pathogenesis we have termed the 'bacterial penetration cycle', whereby dietary components such as animal fat, high sugar intake and gliadin, and consumption of emulsifiers, maltodextrin as well as low-fiber diets may be able to cause a localized acquired bacterial clearance defect, leading to bacterial adhesion and translocation, and development of inflammation in the gut.
Adherent-invasive Escherichia coli and Crohn's disease.

“Studies now show that diet makes a key difference...”


If the intestines looks like this... diet makes the difference...
A DEFINITIVE TREATMENT FOR INFLAMMATORY BOWEL DISEASE
A whole-food, plant-based diet substantially alters the human colonic faecal microbiota.

MEAT AND EGGS PROMOTE
BACTEROIDES

FAT STIMULATES BILE FLOW
BACTEROIDES OXIDIZES BILE SALTS INTO SECONDARY BILE ACIDS
CREATES HYDROGEN SULFIDE THAT DAMAGES DNA
- WHICH PROMOTES CANCER

WHOLE CARBOHYDRATES PROMOTE
PREVOTELLA

DIGEST FIBER INTO SHORT-CHAIN FATTY ACIDS
WHICH SUPPRESS INFLAMMATION & INHIBIT CANCER GROWTH
Lifestyle-related disease in Crohn's disease: relapse prevention by a semi-vegetarian diet.

Chiba M, Abe T, Tsuda H, Sugawara T, Tsuda S, Tozawa H, Fujiwara K, Imai H.

RESULTS: SVD was continued by 16 patients (compliance 73%). Remission was maintained in 15 of 16 patients (94%) in the SVD group vs two of six (33%) in the omnivorous group. Remission rate with SVD was 100% at 1 year and 92% at 2 years. SVD showed significant prevention in the time to relapse compared to that in the omnivorous group (P = 0.0003, log rank test). The concentration of C-reactive protein was normal at the final visit in more than half of the patients in remission who were taking an SVD, who maintained remission during the study (9/15; 60%), who terminated follow-up (8/12; 67%), and who completed 2 years follow-up (7/10; 70%). There was no untoward effect of SVD.

CONCLUSION: SVD was highly effective in preventing relapse in CD.
GASTROINTESTINAL DISEASES with PLANT-BASED IMPLICATIONS

- COLON CANCER
- INFLAMMATORY BOWEL DISEASE
- ULCERATIVE COLITIS
- CROHN’S DISEASE
- APPENDICITIS
- DIVERTICULOSIS
- HIATAL HERNIA
- HEMORRHOIDS
- CONSTIPATION
DISEASE REVERSAL IN RHEUMATOLOGY
The “Diet-Inflammation/Autoimmune” Connection
1. *How the Mediterranean diet and some of its components modulate inflammatory pathways in arthritis.*
   PMID: 26523418  Free Article
   Similar articles

2. *Diet and alcohol as risk factors for rheumatoid arthritis: a nested case-control study.*
   Sundström B, Johansson I, Rantapää-Dahlqvist S.
   PMID: 25428595
   Similar articles

   Hu Y, Costenbader KH, Gao X, Hu FB, Karlson EW, Lu B.
   PMID: 25251857  Free PMC Article
   Similar articles

4. *[Hyperuricemia and gout: the role of diet].*
   Álvarez-Lario B, Alonso-Valdivielso JL.
   PMID: 24879016  Free Article
   Similar articles
Controlled trial of fasting and one-year vegetarian diet in rheumatoid arthritis.


Department of General Practice, University of Oslo, Norway.

27 patients were allocated to a four-week stay at a health farm. After an initial 7-10 day subtotal fast, they were put on an individually adjusted gluten-free vegan diet for 3.5 months.
Controlled trial of fasting and one-year vegetarian diet in rheumatoid arthritis.


Department of General Practice, University of Oslo, Norway.

After four weeks:
• significant improvement in number of tender joints,
• Ritchie's articular index,
• number of swollen joints,
• pain score, duration of morning stiffness,
• grip strength,
• erythrocyte sedimentation rate,
• C-reactive protein,
• white blood cell count,

health assessment questionnaire score. In the control group, only pain score improved significantly. The benefits in the diet group were still present after one year, and evaluation of the whole course showed significant advantages for the diet group in all measured indices.
Vegan regimen with reduced medication in the treatment of bronchial asthma.

Lindahl O, Lindwall L, Spångberg A, Stenram A, Ockerman PA.

Thirty-five patients who had suffered from bronchial asthma for an average of 12 yr, all receiving long-term medication, 20 including cortisone, were subject to therapy with vegan food for 1 yr. In almost all cases, medication was withdrawn or drastically reduced. There was a significant decrease in asthma symptoms.
DISEASE REVERSAL in DERMATOLOGY
Evidence for acne-promoting effects of milk and other insulinotropic dairy products. Melnik BC.

Acne vulgaris, the most common skin disease of western civilization, has evolved to an epidemic affecting more than 85% of adolescents. Acne can be regarded as an indicator disease of exaggerated insulinotropic western nutrition. Especially milk and whey protein-based products contribute to elevations of postprandial insulin and basal insulin-like growth factor-I (IGF-I) plasma levels. It is the evolutional principle of mammalian milk to promote growth and support anabolic conditions for the neonate during the nursing period. Whey proteins are most potent inducers of glucose-dependent insulinotropic polypeptide secreted by enteroendocrine K cells which in concert with hydrolyzed whey protein-derived essential amino acids stimulate insulin secretion of pancreatic β-cells. Increased insulin/IGF-I signaling activates the phosphoinositide-3 kinase/Akt pathway, thereby reducing the nuclear content of the transcription factor FoxO1, the key nutrigenomic regulator of acne target genes. Nuclear FoxO1 deficiency has been linked to all major factors of acne pathogenesis, i.e. androgen receptor transactivation, comedogenesis, increased sebaceous lipogenesis, and follicular inflammation. The elimination of the whey protein-based insulinotropic mechanisms of milk will be the most important future challenge for nutrition research. Both, restriction of milk consumption or generation of less insulinotropic milk will have an enormous impact on the prevention of epidemic western diseases like obesity, diabetes mellitus, cancer, neurodegenerative diseases and acne.
The purpose of this paper is to highlight the endocrine signaling of Western diet, a fundamental environmental factor involved in the pathogenesis of epidemic acne. Western nutrition is characterized by high calorie uptake, high glycemic load, high fat and meat intake, as well as increased consumption of insulin- and IGF-1-level elevating dairy proteins. **Metabolic signals of Western diet are sensed by the nutrient-sensitive kinase, mammalian target of rapamycin complex 1 (mTORC1), which integrates signals of cellular energy, growth factors (insulin, IGF-1) and protein-derived signals, predominantly leucine, provided in high amounts by milk proteins and meat.**
DAIRY, OILS AND ACNE


Michael Klaper, M.D. DoctorKlaper.com
TYPE II DIABETES IS A PREVENTABLE & REVERSIBLE DISEASE!
TYPE II DIABETES IS LARGELY A DISEASE OF FAT TOXICITY...
MOST WESTERNERS KEEP THEIR BLOODSTREAM FILLED WITH FAT, SALT AND SUGAR – ALL DAY!
TYPE II - FAT ACCUMULATES IN MUSCLE CELLS from FREQUENT LIPEMIA

Insulin

Glucose

intracellular signaling

MUSCLE CELL

Intramyocellular lipid

Mitochondria
“INTRA” = INSIDE

“MYO” = MUSCLE

“CELLULAR” = CELULAR

“LIPID” = FAT

FAT IN THE MUSCLE CELLS
Intramyocellular Lipid (fat in the muscle cells)
INTRAMYOCYTOCELLULAR LIPID
WITH P$^{31}$ AND C$^{13}$ MAGNETIC RESONANCE
TYPE II – INSULIN RESISTANCE

INTRAMYOCYTOLELLULAR LIPID CLOGS THE INSULIN RECEPTORS FROM THE INSIDE

so blood sugar goes up
The science is solid…


Intramyocellular lipids and insulin resistance.

Machann J, Häring H, Schick F, Stumvoll M.

Department of Endocrinology, Metabolism and Pathobiochemistry, University of Tübingen, Tübingen, Germany.

(Don’t despair - it’s REVERSIBLE!)

Association of increased intramyocellular lipid content with insulin resistance in lean nondiabetic offspring of type 2 diabetic subjects.


Department of Endocrinology and Metabolism, University of Tübingen, Germany.

Muscle triglycerides and mitochondrial function: possible mechanisms for the development of type 2 diabetes

M Roden, et. al.

Medical Department,

Hanusch Hospital,

Vienna, Austria
Association of increased intramyocellular lipid content with insulin resistance in lean nondiabetic offspring of type 2 diabetic subjects.


Department of Endocrinology and Metabolism, University of Tübingen, Germany.
In the past 30 years, we have all witnessed something remarkable...

We have grown...
A Steady Growth of Girth
THE
NORMALIZATION
OF OBESITY
“YEAH, I’M CARRYING WAY TOO MUCH BODY FAT – BUT IT’S OK.”
“YEAH, I’M CARRYING WAY TOO MUCH BODY FAT – BUT IT’S OK.”

It’s NOT OK (if you want to be healthy!)
The Rise of Diabetes

Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2009

WHEN YOUR BLOOD RUNS THICK WITH FAT, IT DEPOSITS IN TISSUE EVERYWHERE, BUT ESPECIALLY AROUND YOUR ABDOMEN!
ABDOMINAL FAT IS LIKE AN ALIEN BEING IN YOUR BODY!

INFLAMMATION, PROMOTES DIABETES AND FUELS CANCER GROWTH
ABDOMINAL BELLY FAT
TWO KINDS OF FAT
ABDOMINAL BELLY FAT

IS METABOLICALLY ACTIVE
ABDOMINAL BELLY FAT

IS METABOLICALLY ACTIVE

– AND IT IS NOT YOUR FRIEND!
INTRA-ABDOMINAL FAT

SUBCUTANEOUS FAT = "UNDER THE SKIN"
INTRA-ABDOMINAL FAT

SUBCUTANEOUS FAT PRODUCES ESTROGENS!
INTRA-ABDOMINAL FAT

SUBCUTANEOUS FAT PRODUCES ESTROGENS!
INTRA-ABDOMINAL FAT PRODUCES ESTROGENS!

INTRA-ABDOMINAL FAT ENCASES ABDOMINAL ORGANS

SUBCUTANEOUS FAT PRODUCES ESTROGENS!
INTRA-ABDOMINAL FAT produces estrogens!

INTRA-ABDOMINAL FAT produces inflammatory cytokines!

SUBCUTANEOUS FAT produces estrogens!
ABDOMINAL FAT IS INVOLVED IN MANY DISEASES

Asthma, enlarged prostate, gallstones, coronary artery disease, deep venous thrombosis, diabetes, endometrial cancer, erectile dysfunction, gastroesophageal reflux disease, heart failure, elevated cholesterol, high blood pressure, kidney stones, leukemia, liver disease, osteoarthritis ovarian cancer, pancreatic cancer, polycystic ovarian syndrome, psoriasis, uterine fibroids.
TYPE II – INSULIN RESISTANCE

INTRAMYOCYTOCELLULAR LIPID CLOGS THE INSULIN RECEPTORS FROM THE INSIDE

MUSCLE CELL

so blood sugar goes UP
TYPE II – INSULIN RESISTANCE

Cytokines interfere with the insulin receptors from outside MUSCLE CELL, so blood sugar goes UP.
“Metabolic Syndrome”

Obese by 60 lbs.

High blood pressure – on 2 Rx’s

Insulin resistance/ T2 Diabetes – on 2 Rx’s

High lipids - cholesterol & triglycerides – on 2 Rx’s
A WHOLE-FOOD, PLANT-BASED DIET IS HIGH IN FIBER AND WATER AND LOW IN CALORIE DENSITY

WEIGHT LOSS HAPPENS NATURALLY
TYPE II DIABETES IS A REVERSIBLE DISEASE!


A low-fat vegan diet and a conventional diabetes diet in the treatment of type 2 diabetes: a randomized, controlled, 74-wk clinical trial.


Department of Medicine, George Washington University School of Medicine, Washington, DC
@ 22 Weeks

Plant-Based Diet vs. A.D.A. Diet

HgbA1c -1.23 % -0.38

Body wt -6.5 kg -3.1 k

LDL -21 % -10.7 %

Urine alb. -15.9 mg/24h -10.9 mg/24h
Hemoglobin A1c
Participants with No Medication Changes (0-74 Weeks)
(n = 14 vegan, 21 ADA)

P = 0.14 for difference between groups in change from weeks 0 to 74.
Body Weight
(n = 49 vegan, 50 ADA)
(Missing values returned to baseline)

- ADA: 99.3 kg at Week 0, 96.7 kg at Week 74 (-2.6 from baseline)
- Vegan: 97.0 kg at Week 0, 93.3 kg at Week 74 (-3.7 from baseline)

P = 0.36
Low Density Lipoprotein
Baseline to 74 Weeks or Last Value before Medication Change
(n = 49 vegan, 49 ADA)

LDL (mg/dl)

Week 0

Week 74

P = .001
Changing the food stream to one mostly or completely based on whole plant foods fills the stomach with low calorie density foods that leads to weight loss and DM control...
On a whole food, plant-based diet, the intramyocellular lipid is burned for energy, the insulin receptors function again and the Type 2 diabetes predictably improves - and usually resolves completely.
...BUT I LOST WEIGHT ON THE “PALEO” DIET.
“PALEO” EATERS AVOID 3 THINGS THAT PRODUCE WEIGHT LOSS:
“PALEO” EATERS AVOID 3 THINGS THAT PRODUCE WEIGHT LOSS:

1. DAIRY
COW’S MILK IS BABY CALF GROWTH FLUID!

The REAL purpose of cow’s milk is to turn this:

into this

COW’S MILK IS BABY CALF GROWTH FLUID!
“PALEO” EATERS AVOID 3 THINGS THAT PRODUCE WEIGHT LOSS:

1. DAIRY 2. OILS
EXCESS FAT IS NO FRIEND OF THE DIABETIC PERSON

OLIVE OIL IS LIQUID FAT IN A BOTTLE!
“PALEO” EATERS AVOID 3 THINGS THAT PRODUCE WEIGHT LOSS:
1. DAIRY 2. OILS 3. FLOUR
AVOID THESE PROCESSED “CARBS”!
PALEO PITFALLS...

“PALEO” EATERS ARE LIKELY SETTING THEMSELVES UP FOR A PLAGUE OF:

- Colon cancer
- Heart attacks
- Strokes
- Autoimmune diseases
- Diabetes
- Inflammatory bowel disease
- Dementia
THESE HEALTHY “CARBS” - UNPROCESSED, WHOLE PLANT FOODS - WILL LEAVE YOU LEAN, HEALTHY AND NON-DIABETIC!

ADOPT A WHOLE-FOOD, PLANT-BASED DIET - WITHOUT ADDED SALT, SUGARS or OIL

THE MOST IMPORTANT WEIGHT LOSS STRATEGY OF ALL!
IT’S NOT ABOUT “LOSING WEIGHT”

IT’S ABOUT EATING HEALTHY

– A LEANER BODY FOLLOWS AUTOMATICALLY
An Idea Whose Time Has Come

DISEASE REVERSAL Possible. Predictable. Practical

Michael Klaper, M.D.
DoctorKlaper.com
Healthy Breakfasts

- Cinnamon Raisin Oatmeal
  - Blueberry Pancakes
- Bran Flakes with Almond Milk
- Veggie sausage, veggie bacon
  - Breakfast Scrambler
- Fantastic Fruit Smoothie
- Whole-Grain Bagel with Jam
  - Swiss Style Muesli
- Slow Cooker Whole-Grain Porridge
  - Orange-Pineapple Crush
Lunches and Dinners

• Veggie Pizza
• Chunky Vegetable Chili
  • Bean Burrito
• Veggie burgers, veggie hot dogs
  • Mandarin Stir-Fry
• Portobello Mushroom Steaks
• Oven-Barbecued Tofu Steaks
  • Sweet & Sour Tempeh
• Southern Beans & Greens
  • Seitan Cassoulet
• Stuffed Vegetable Rolls
• Zucchini & Herb Calzones
Search for “low-fat, Italian, vegan recipes”

Italian Cuisine
Mexican Cuisine

Search for “low-fat, Mexican, vegan recipes”
Search for “low-fat, Chinese, vegan recipes”

Chinese Cuisine
Search for “low-fat, Japanese, vegan recipes”

Japanese Cuisine
Indian Cuisine

Search for “low-fat, Indian, vegan recipes”
Fast-Food Options

Veggie sub

Sofritas bowl

Bean taco, hold the cheese
Educate yourself! - PCRM.ORG

An Apple A Day: A Guide to Creating Change

Evidence-Based Eating Patterns for Weight Control

Evidence-Based Eating Patterns for Type 2 Diabetes

Evidence-Based Eating Patterns for Heart Disease

https://www.pcrm.org/physicians-in-training/resources
For Health Professionals

Educate yourself in PLANT-BASED NUTRITION:
- e-Cornell
- PCRM.org
- JeffNovick.com
- NutritionFacts.org
- TheVeganRD.com
- DrMcDougall.com - newsletter
- DrFuhrman.com - nutrition course
- NutriSpeak.com - Becoming Vegan
- DoctorKlaper.com

WEBINAR: “Thriving on a Plant-based Diet”
Nutrition CME

https://www.nutritioncme.org

International Conference on Nutrition in Medicine

https://www.nutritioncme.org

August 10-11, 2018

This free, comprehensive medical reference provides the latest evidence-based information on nutrition for disease prevention, including risk factors, diagnoses, and treatments.

nutritionguide.pcrm.org

https://nutritionguide.pcrm.org
HEALTH CARE PROFESSIONALS! The plant-based wave is breaking - line up your surfboards!

FIND LOCAL PLANT-BASED DIETITIANS TO DO THE COUNSELING FOR YOU!

**Nutritional Update for Physicians: Plant-Based Diets**

Phillip J Tuso, MD; Mohamed H Ismail, MD; Benjamin P Ha, MD; Carole Bartolotto, MA, RD
Perm J 2013 Spring; 17(2):61-66
http://dx.doi.org/10.7812/TPP/12-085

CME credits available for this article

**ABSTRACT**

The objective of this article is to present to physicians an update on plant-based diets. Concerns about the rising cost of health care are being voiced nationwide, even as unhealthy lifestyles are contributing to the spread of obesity, diabetes, and cardiovascular disease. For these reasons, physicians looking for cost-effective interventions to improve health outcomes are becoming more involved in helping their patients adopt healthier lifestyles. Healthy eating may be best achieved with a plant-based diet, which we define as a regimen that encourages whole, plant-based foods and discourages meats, dairy products, and eggs as well as all refined and processed foods. We present a case study as an example of the potential health benefits of such a diet. Research shows that plant-based diets are cost-effective, low-risk interventions that may lower body mass index, blood pressure, HbA1C, and cholesterol levels. They may also reduce the number of medications needed to treat chronic diseases and lower ischemic heart disease mortality rates. Physicians should consider recommending a plant-based diet to all their patients, especially those with high blood pressure, diabetes, and obesity.
Effective plant-based medicine restores satisfaction in medical practice.

BARNARD MEDICAL CLINIC
WASHINGTON, D.C.
INSTRUCTION FOR PATIENTS IN OFFICE SETTING

Make It Easy - simple classes
After-hours waiting room, meeting rooms, etc.

Doctor or Nurse Practitioner (3 min)

Registered Dietitian (30-60 min)

Class leader (60 min)
A One-Hour Session

- Weigh in (12)
- Looking ahead (9)
- Presentation (3)
- Successes & Challenges (6)
IT’S NOT TOO LATE AND IT IS NOT DIFFICULT!

http://www.forksoverknives.com/
On NetFlix
IT'S NOT DIFFICULT!

Make the Transition
How to Transition to the Life-Saving, Whole-Food, Plant-Based Diet

http://www.forksoverknives.com/
Resources and help are all around. [www.DoctorKlaper.com](http://www.DoctorKlaper.com) “Thriving on a Plant-based Diet”
Opportunities abound for health professionals to educate themselves.

Educate yourself in PLANT-BASED NUTRITION:
- e-Cornell
- PCRM.org
- JeffNovick.com
- NutritionFacts.org
- TheVeganRD.com
- DrMcDougall.com
  - newsletter
- DrFuhrman.com
  - nutrition course
- NutriSpeak.com

DoctorKlaper.com

WEBINAR: “Thriving on a Plant-based Diet”
Rochester Lifestyle Medicine

https://rochesterlifestylemedicine.org
At the Rochester Lifestyle Medicine Institute
you take charge of your own health.

Our Programs:

- **15-Day Jumpstart Program** – Lower cholesterol, improve blood sugar, lose weight and feel great in just 2 weeks!
- **Complete Health Improvement Program (CHIP)** – CHIP is an 18-week lifestyle intervention program developed over 25 years at Loma Linda University. Our patients love CHIP!
- **6-Week Nutrition Course** – Learn how to embrace a Whole-Food Plant-Based Diet (Physicians can receive professional credit.)
- **Lifestyle as Medicine Lecture Series** – Distinguished professionals from across the U.S. share their expertise in talks given at the Rochester Academy of Medicine.
- **Active Lifestyle / Move Program** – Physical activity coaching in partnership with Genesee Valley Physical Therapy (GVPT)
- **Chronic Kidney Disease (CKD) Individual and Group Nutritional Counseling** – with Liz Kirk, RDN, CDN (SilverStreamRD)
- **Lifestyle Medicine Consultation** – Schedule an evaluation with one of our medical providers today!
LIFESTYLE MEDICINE

European College of Preventive and Lifestyle Medicine (ECLM)

Australian Lifestyle Medicine Association (ALMA)

Nutrition and the Malaysian Healthy Lifestyle Programme:
LIFESTYLE MEDICINE

2ND CONFERENCE OF LIFESTYLE MEDICINE IN MEXICO BY UM
FIFTH INTERNATIONAL LIFESTYLE MEDICINE CONFERENCE IN LITHUANIA

LIFESTYLE MEDICINE: Theory and Practice

April 11-12, 2019

Lithuanian University of Health Sciences (LUHS)
Educational Laboratory Complex
Z. Januškevičiaus auditorium, Eivenių g. 4, Kaunas

CONFERENCE PROGRAMME
1st day
The era of applied nutrition-based, lifestyle medicine is dawning.

Be part of it - and both clinicians and patients will benefit greatly.

DoctorKlaper.com
DISEASE REVERSAL
Possible. Predictable. Practical

An Idea Whose Time Has Come

Michael Klaper, M.D.
DoctorKlaper.com
DISEASE REVERSAL
Possible. Predictable. Practical

Reimbursement plans must be structured to appropriately compensate and motivate physicians and health professionals to educate themselves and their patients on how to reverse disease and to maintain the highest levels of health.

Michael Klaper, M.D.
DoctorKlaper.com
Can Community-Based Education Improve Health Indicators?

Caterina Lindman
CHIP Program

## CHIP Program

**Overview of Indicators after 4 weeks**

Program delivered by non-health professionals – from a number of studies published from 1986 to 2014

<table>
<thead>
<tr>
<th>Number</th>
<th>7,085</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>68%</td>
</tr>
<tr>
<td>Average Age</td>
<td>57</td>
</tr>
</tbody>
</table>

**Improvements after 4 weeks**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>3.3%</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>5.0%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>11.4%</td>
</tr>
<tr>
<td>HDL</td>
<td>13.4%</td>
</tr>
<tr>
<td>LDL</td>
<td>8.6%</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>8.1%</td>
</tr>
<tr>
<td>Glucose</td>
<td>6.1%</td>
</tr>
</tbody>
</table>
What does an Evidence-Based Food Guide Look like? Using Canada as an example
Actions that all Health Care Payers Can Implement

Ken Beckman, ACAS, ASA, MAAA, CFA
Why is Whole Food Plant-Based Nutrition not frequently used as treatment?

(1) Concept of chronic disease reversal is not widely known

(2) Lack of monetary incentives for providers to reverse chronic disease
Actions That All Health Care Payers Can Implement

(1) Deliver a direct message to all insured members that chronic disease can be reversed

Example: Insurance Company

- Sent introductory letter: “Did you know that diabetes, heart disease, high blood pressure, obesity, arthritis, etc. can be reversed without drugs/surgery and no negative side effects?”
- Sent documentary film (Forks Over Knives) providing scientific evidence and compelling personal stories of disease reversal
- Provided other materials: book, websites, recipes
- Not prescribing medicine – simply providing (specific, actionable) information/encouraging discussion with health care providers
- Policyholder response / reaction – extremely positive and appreciative
(2) Require patients be advised of plant-based treatment option before approving payment for non-emergency bypass/stents, bariatric surgery, and PCSK9 drugs.
Actions That All Health Care Payers Can Implement

Example: Bypass surgery

Surgeon advises patient on risks/benefits of both bypass procedure and plant-based nutrition

- Patient elects procedure
  - Surgeon is paid $5000
  - Total cost: $200,000

- Patient elects plant-based nutrition
  - Surgeon is paid $10,000
  - Payer saves $190,000
Actions That All Health Care Payers Can Implement

(3) Offer financial incentives for physicians based on the value patients receive (improvement in health)
How to Develop Financial Incentives Based On: Patient Value = Improvement in Health

(1) Choose Objective Clinical Measures that are predictive of future costs
   BMI (Body Mass Index)
   Cholesterol
   Blood Pressure
   HbA1c (Diabetes indicator)
   CRP (C-Reactive Protein inflammation marker)
   Endothelial function (vascular health indicator)

(2) Relate Measures to Claim Costs
   (e.g. 1% change in A1c = $1000 of claim costs)

(3) Pay a portion of expected cost reduction to physicians based on actual patient results
## Actuarial Patient Value Model
### Financial Incentives Based on Improvement in Health

<table>
<thead>
<tr>
<th>Diabetic Patient with HbA1c of:</th>
<th>Treatment Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.0</td>
<td>1</td>
</tr>
<tr>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Expected Total Health Spending:</td>
<td>$15,000</td>
</tr>
<tr>
<td>GP/PCP Share of Health Spending:</td>
<td>$1,500</td>
</tr>
<tr>
<td>Incentive Payment to GP/PCP:</td>
<td>$2,000</td>
</tr>
<tr>
<td>Net Savings Relative to Year 1:</td>
<td>$5,500</td>
</tr>
</tbody>
</table>
Universal Model - Implementation

Different Provider Payment systems (fee-for-service, capitation, salary)
• Existing provider payment systems can remain in place
• Incentives are paid in addition to current reimbursement arrangements

Different Financing systems (public, private, mixed)
• Private payers can implement Actuarial Patient Value model very quickly working directly with providers
• Public payers may need new legislation/regulation, but as incentive payments are more than offset by reduced spending on health care services overall cost to taxpayer is reduced

Different clinical settings (primary care, specialist, hospital, nursing home)
• Health care providers can prescribe plant-based treatment, but do not have to create new infrastructure
• Entrepreneurs offer a variety of ways (in-person seminars, online) to educate/support patients who are prescribed plant-based nutrition--sharing incentive payments with referring health care professional
Why Do Actuaries Need to Get Involved?

• Evidence & research supports plant-based nutrition, but financial incentive is missing

• Experts in developing sustainable financial security systems

• Key role with payers—offer payers an evidence-based solution to facilitate large scale implementation
Conclusion

• 85%+ of health care costs due to chronic conditions

• WFPB nutrition can reverse a wide range of chronic conditions without negative side effects

• No downside risk for health care payers to make insured members aware of WFPB nutrition

• Opportunity for actuaries to develop incentives resulting in a sustainable health care system
Thank you

Contact:

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caterina.lindman@actuariesforsustainablehealthcare.org