Ge kroppen föda och själen näring!

del 3:
Mat kan vara gift —om säd, mejerivaror, stekt och grillat och LCHF!

Stig Bengmark MD PhD, UCL, London University, UK
stig@bengmark.se
www.bengmark.com

"We are living in a world today where lemonade is made from artificial flavors and furniture polish is made from real lemons."

Alfred E. Newman, Mad Magazine

Bioengineered Meat – “Chicken Nuggets”

- Before 1980 80 to 85 percent of chicken consumed (in the US) was unprocessed.
- Today about 80 percent is processed & contains up to 50 percent of sugars, leavening agents & completely synthetic ingredients.
- Many of the meats tested contained “startlingly high levels” of antibiotic-resistant bacteria on:
  - 81 percent of ground turkey
  - 69 percent of pork chops
  - 55 percent of ground beef
  - 39 percent of chicken breasts, wings and thighs

Eat Organic Pastured/Grass-Fed!

- Not genetically modified
- Contains no added growth hormones, antibiotics, or other drugs
- Does not contain any artificial ingredients, including chemical preservatives
- Animals fed native diets - not a mix of grains and industrial byproducts
- Animals have free access to the outdoors
- Grown without pesticides and chemical fertilizers
- Grown in a sustainable way; using minimal amounts of water, protecting the soil from burnout, and turning animal wastes into natural fertilizers
- Delivered Fresh

FRUCTOSE & MEMORY LOSS

FRUCTOSE IN FRUITS Dr Mercola 2010
THE PRINCIPLES OF HEALTH

Avoid toxic substances:
Alcohol, tobacco, pesticides, drugs, AGE & ALEs, casein, gluten, zein, refined sugars, flour, etc

Avoid processed foods ——— Eat fresh greens

GUIDE TO PESTICIDES

HYPNOTICS & RISK OF DEATH

*Kripke DF et al BMJ Open 2012:2*

<table>
<thead>
<tr>
<th>Any Hypnotic</th>
<th>Hazard Ratio (95% Confidence Interval)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 18 pills per year</td>
<td>3.60 (2.92 - 4.44)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>18 - 132 pills per year</td>
<td>4.43 (3.67 - 5.36)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>&gt; 132 pills per year</td>
<td>5.32 (4.50 - 6.30)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

"Misstanke om ett samband mellan silikonimplantat och sjukdomar som fibromyalgi och autoimmuna sjukdomar, t ex sklerodermi"

*Läs mer: Bengmark S Läkartidningen 2012;109:485*

FLUOR ENHANCES INFLAMMATION

After www.mercola.com,

<table>
<thead>
<tr>
<th>Increases absorption of lead</th>
<th>Disrupts collagen synthesis</th>
<th>Hyperactivity and/or lethargy</th>
<th>Crippling skeletal strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic damage and cell death</td>
<td>Increased tumor and cancer growth</td>
<td>Disrupts immune system</td>
<td>Inhibits antibody production</td>
</tr>
<tr>
<td>Brain damage</td>
<td>Dementia</td>
<td>Arthritis</td>
<td>Severe eye problems incl</td>
</tr>
</tbody>
</table>
Dr. David Kennedy:
Fluoridegate — An American Tragedy

- Inactivates 62 enzymes
- Increases lead absorption
- Disrupts immune system
- Impairs thyroid function
- Increases tumor/cancer growth
- Disrupts collagen synthesis
- Promotes bone fractures
- Inhibits antibody production
- Induces:
  - Genetic damage
  - Brain damage, and lowered IQ
  - Dementia
  - Increases hyperactivity or lethargy
  - Muscle disorders
  - Arthritis
  - Severe eye problems
  - Bone cancer (osteosarcoma)

Don’t use teabags!!! treated with epichlorohydrin, a compound mainly used in the production of epoxy resin (patent Dow Chemical Co)

1. Preheat your tea pot or cup to prevent the water from cooling too quickly. Ceramic and porcelain retain heat well.
2. Boil in a tea kettle (avoid using a non-stick pot, as they too can release harmful chemicals when heated).
3. Put the loose tea into an infuser or pot - one heaped teaspoon per cup of tea

Black teas: (full leaf) and Pu-erhs (fermented black Chinese tea), Yerbamate (very rich in caffeine, not for pregnant or babies): 100 C, Wait 3-5 min

White teas, green teas (full leaf), chamomile (baby tea): Well below boiling at 76-85 C. Wait 2-3 min

Oolongs (full leaf) Chinese tea withered under strong sun), Rooibus (baby tea): at 85-98 C, wait 4-7 min

GREEN TEA

- Prostate cancer rare among Chinese men
- Chinese women exhibit later age of menarche, earlier age of menopause, greater parity, lower levels of circulating estrogens and much lower incidence of breast cancer

RED WINE, GREEN TEA, YERBA MATE TEA & INFLAMMATION

Bixby M et al Life Sciences 2005;77:345–358

MICROBIOTA, IMMUNITY, DISEASE


EUBIOSIS

DYSBIOSIS
THE 1986 EXPERIENCE

- 1986: review of 81 liver resections
- Morbidity: 33% (17% major)
- Prophylactic antibiotic (ampicillin, cephalosporin, tetracyclines) given to 57/81 patients
- No antibiotics to 24/81 patients
- ALL INFECTIONS WERE IN ANTIBIOTIC TREATED PATIENTS
- NO INFECTIONS WERE SEEN IN THE PATIENTS WHO DID NOT RECEIVE ANTIBIOTICS
- Ekberg, PhD thesis, Lund University 1986

“THE MICROFLORA ORGAN”

In the intestine:

- Grams wet weight:
  - Eyes 1
  - Nose 10
  - Mouth 20
  - Lungs 20
  - Vagina 20
  - Skin 200
  - Intestines 1000 - 2000

ALL INFECTIONS WERE IN ANTIBIOTIC TREATED PATIENTS
NO INFECTIONS WERE SEEN IN THE PATIENTS WHO DID NOT RECEIVE ANTIBIOTICS
Ekberg, PhD thesis, Lund University 1986

Gustafsson BE, In Germfree Research 1985;17-23 Alan R Liss Inc. NY

METABOLIC PATHWAYS –HUMAN MICROBIOME
Maccafferri S et al Dig Dis 2011;29:525-530

MICROBIOTA – FERMENTATION
Angelakis E et al Future Microbial 2012;7:91-109

MICROBIOTA, DIET & IMMUNE FUNCTIONS
Maslowski KM, Mackey CR Nat Immunol 2011;12:5-9

Western diet, use of antibiotics & other drugs, lack of microbial flora, but also genetic factors influence the immune system, promotes inflammation & induces diseases

Microbiota regulates immune and inflammatory responses through anti-inflammatory and/or immuno-modulatory products:
Short chain fatty acids (SCFA), polysaccharide A (PSA), peptidoglycan (PTGN), vitamins & antioxidants etc

MICROBIOTA – FERMENTATION
Angelakis E et al Future Microbial 2012;7:91-109

MICROBIOTA & DISEASE
Cani PD, Delzenne NM Pharmacol Ther. 2011;130:202-212

Figure 5. Outline of carbohydrate fermentation by gut microbiota.
**FLORA IN STRESS**

- Fear and anger deranges flora especially LAB
  - *Bifidobacteria* decrease &
  - *Bacteriodes* increase 10X


**FLORA IN ACUTE STRESS**

- Anaerobs - LAB reduced/eliminated 6-12 hours after induction of pancreatitis
- Accompanied by
  - increase in potentially pathogenic microorganisms (PPMs) &
  - dramatic increase in mucosal permeability

**ADRENALINE & CLOSTRIDIAL GROWTH**

*Cooper EV Lancet 1946;24:459-461*

<table>
<thead>
<tr>
<th>Dose of bacteria</th>
<th>Guinea pigs dying of gas gangrene</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test series (bacteria + adrenaline)</td>
</tr>
<tr>
<td>40,000,000</td>
<td>3/3</td>
</tr>
<tr>
<td>4,000,000</td>
<td>2/3</td>
</tr>
<tr>
<td>400,000</td>
<td>2/3</td>
</tr>
<tr>
<td>40,000</td>
<td>2/3</td>
</tr>
<tr>
<td>4000</td>
<td>0/3</td>
</tr>
<tr>
<td>0</td>
<td>0/3</td>
</tr>
</tbody>
</table>

* 2/3 = of three guinaipigs injected, two died.

**KINDNESS/HOSTILITY & CHD**

*Haas DC Heart 2005;91:1609-1610*

**FOOD INTAKE & INFLAMMATION**

- 1. Low intake of fresh plant foods; greens, vegetables, fruits, spices
- 2. High intake of proteotoxins: casein, gluten, zein (corn) etc
- 3. High intake of heat- and storage-induced proteotoxins: glycated (AGEs), lipoxidated molecules (ALEs), processed carbohydrates & animal fats induces:
  - Dysbiosis: reduced numbers & diversity
  - Body membranes leaking like a sieve; leaky gut, leaky airways, leaky skin, leaky vagina, leaky eye cavity, leaky nose, leaky placenta, leaky blood-brain barrier etc.

**FLORA IN STRESS**

Deranged flora and immune system

- Astronauts
- Endurance athletes
- Gulf war syndrome
- Chronic fatigue syndrome
- Fibromyalgia
- Mental depression
- Schizophrenia (?)

"Cow's milk in the past has been oversold as the perfect food, but we are now seeing that it isn't the perfect food at all and the government really shouldn't be behind any efforts to promote it as such." Benjamin Spock, M.D., Los Angeles Times, November 18, 1992

"I would call milk perhaps the most unhealthful vehicle for calcium that one could possibly imagine, which is the only thing people really drink it for, but whenever you challenge existing dogma...people are resistant."
Neal Barnard, M.D., Director of the Physician's Committee for Responsible Medicine

HORMONAL ENVIRONMENTAL "DISRUPTORS"

• Up to 80 % of milk comes from pregnant cows & contains significant amounts of:
  - Pituitary hormones: PRL, GH, TSH, FSH, LH, ACTH
  - Steroid hormones: estrogen, progesterone, testosterone etc
  - Hypothalamic hormones: TRH, LHRH, GnRH, GRH
  - Gastrointestinal peptides
  - Halogenated aromatic hydrocarbons
  - Advanced glycation & lipoxidation end products (AGES/ALEs)

ESTROGENS IN MILK
Malekinejad H et al J Agric Food Chem 2006;54: 9785-9791

Background: The dramatic increase in testicular, breast, prostate, ovarian, and corpus uteri, and large bowel cancers. 60-80% of the intake of estrogens originates in the Western world from milk and other dairy foods. The daily intake of total estrogens through milk is 372 ng, "which is dramatically more than currently recognized."
The content is twice as high in 3.5 % fat milk than in non-fat milk & extremely high in butter!

CALCIUM I FOOD mg/100 g food
Daily need: 1000-1300 mg

- Baking powder 11300
- Herb salt 3180
- PARMESAN CHEESE 1380
- Sesame seeds 980
- CHEESE 28 % 750
- Agar 600
- Nettles 490
- Persil 340
- Dill 343
- Peas 300
- Beans 300
- Almonds 265
- Sunflower seeds 265
- Flax seeds 198
- Sardines 190
- Brazil nuts 180
- CREAM 135
- MILK 120
- Digestive biscuits 110
- Fish 100
- Spinach 90
- Black current 90
- BREAD, wheat whole 48
- BUTTER 18
- HAMBURGERS 10
- FRENCH FRIES 9
- KETCHUP 7

DAIRY CONSUMPTIONS & IGF-1
The Endogenous Hormones and Breast Cancer Collaborative Group
Lancet Oncol 2010; 11: s30–42

- a positive association between consumption of dairy products and IGF-1 concentrations reported in several cross-sectional studies(11, 12, 17, 18, 31, 32)
- increase in IGF-1 in response to increasing intake of milk and dairy products observed in both younger (33-35) and older(36-38) participants
- IGF-1 concentrations found significantly lower in vegans compared with lactoovo-vegetarians and omnivores in the EPIC-Oxford cohort (16, 21)
Diet and Breast Cancer
Carroll KK Cancer Res 1975;35:3374-3383

Bovine Milk & Coronary Heart Disease

Early Milk Consumption & Risk of Prostatic Cancer
Torfadottir JE et al Am J Epidemiol 2012; 175:144-53
8,894 men born 1907 to1935 followed a mean 24.3 years & 1123 diagnosed with prostatic cancer, 2,268 participants reported their milk intake in early, mid-, and current life.
Daily milk intake in adolescence associated with a 3.2-fold risk of advanced prostate cancer (95% CI: 1.25, 8.28) suggesting that frequent milk intake in adolescence increases risk of advanced prostate cancer later in life.

Free Estrogens in Dairy
PG/G E1 E2 - 17B E3
Whole milk 3.7 6.4 9.0
Skimmed milk 20.2 3.4 8.2
Whey 3.6 1.5 3.0
Cottage cheese 34.9 10.8 6.1
Butter 539.4 82.3 86.8
Wolford ST, Argoudelis CJ J Dairy Science 1979;62:1458-1463

Bovine Milk & Chronic Diseases
- Parkinson disease Park M et al. Neurology 2005;64:1047-1051

Dairy Consumption 2008
kg/individual/year
- Finland 180
- Israel 175
- Iceland 149
- Sverige 138
- Denmark 134
- Holland 120
- Norway 114
- Portugal 113
- Spain 109
- Australia 104
- UK 102
- Germany 92
- France 87
- EU 87
- USA 80
- Switzerland 77
- Iran 78
- Belgium 64
- S Korea 44
- Argentina 43
- Italy 42
- S Africa 38
- Mexico 37
- Japan 34
- China 10

Wolford ST, Argoudelis CJ J Dairy Science 1979;62:1458-1463
DAIRY PRODUCT CONSUMPTION 2008

Cheese
- Greece 28
- Italy 24
- France 24
- Switzerland 22
- Germany 22
- Sweden 19
- EU 19
- Portugal 16
- USA 13
- United Kingdom 12
- Argentina 10
- Spain 10
- New Zealand 7
- Mexico 2

Butter
- France 7.3
- Germany 6.4
- New Zealand 6.3
- Switzerland 5.6
- Finland 5.3
- Norway 4.3
- EU 4.2
- United Kingdom 3.7
- Italy 3.0
- USA 2.5
- Portugal 1.6
- India 1.5
- Sweden 1.0
- Spain 1.0
- Greece 0.7

BRÖD, SÄD & SÄDESPRODUKTER - HÄLSORISKER

- Rika på energi – kalorier & har högt GI
- Fattiga på specifika näringsämnen (nutrienter), vitaminer, antioxidanter & mineraler
- Dålig föda för den godartade tarmfloran
- Rika på pro-inflammatoriska molekyler som gluten – gäller vete, råg och korn – inte andra!
- Rika på dysfungerande, pro-inflammatoriska molekyler främst AGE & ALE men också t.ex. akrylamin om de bakats i temperatur över 80-100 grader, eller roststats

GLUTEN-CASEIN & LACTOBACILLUS GROWTH


GLUTEN & SURFACE MOLECULE EXPRESSIONS


GLUTENOIDS

Glutenoids induce damage to cellular membranes in individuals with predisposing HLA molecules

GRAINS FOR FOODS

Consider eliminate/reduce gluten-containing grains:
- Wheat
- Rye
- Barley

Use instead/increase:
- Buckwheat
- Quinoa
- Other exotic grains

GLUTEN & SURFACE MOLECULE EXPRESSIONS

Class II, CDB6, CD40, CD54

Children with celiac disease (CD) known to have an aberrant gut microflora. Non-CD relatives have impaired intestinal microbial metabolism:
- significantly lower level of acetic acid and total SCFAs
- significantly increased level of i-butyric acid and free tryptic activity (FTA) than healthy controls.

### ANCIENT GRAINS

Arndt EA Gluten-free foods: Opportunities and challenges IFT 2010
- Grains that have a long history of use and generally considered less changed by modern plant science practices
- Also includes ancient wheats - spelt, Kamut®, farro, einkorn, emmer
- Amaranth – Aztec culture, high protein & mineral content
- Quinoa – Inca culture, higher protein & mineral content
- Sorghum – 5th highest in world, versatile, most cost effective
- Millet – 6th highest in world, versatile, mild flavor
- Teff – staple in Ethiopia, very tiny seed, higher mineral content
- What is different/better about ancient grains? Unique flavors!
- Visual interest –seed size, shape and color
- Primarily used as whole grains –generally not refined

### SORGHUM – A SUPER GRAIN?

Dykes L, Rooney LW Cereal Foods World 2007;52:105-111

**Table 1. Antioxidant activity (AOC) of sorghum grains and beans compared to common fruits and vegetables**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>AOC 100g (dry wt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tender sorghum (grain)</td>
<td>999</td>
</tr>
<tr>
<td>Tender sorghum (flour)</td>
<td>312</td>
</tr>
<tr>
<td>Black sorghum (grain)</td>
<td>164</td>
</tr>
<tr>
<td>Red sorghum (grain)</td>
<td>140</td>
</tr>
<tr>
<td>Red sorghum (flour)</td>
<td>725</td>
</tr>
<tr>
<td>White sorghum (grain)</td>
<td>64</td>
</tr>
<tr>
<td>White sorghum (flour)</td>
<td>65</td>
</tr>
<tr>
<td>White sorghum (millet)</td>
<td>802</td>
</tr>
<tr>
<td>Sorghum (flour)</td>
<td>804</td>
</tr>
<tr>
<td>Pearl</td>
<td>405</td>
</tr>
<tr>
<td>Watermelon</td>
<td>15</td>
</tr>
<tr>
<td>Apple, red</td>
<td>205</td>
</tr>
<tr>
<td>Apple, green</td>
<td>128</td>
</tr>
<tr>
<td>Mango, red</td>
<td>173</td>
</tr>
<tr>
<td>Peanut</td>
<td>75</td>
</tr>
<tr>
<td>Sesame, red</td>
<td>108</td>
</tr>
<tr>
<td>Sesame, green</td>
<td>105</td>
</tr>
<tr>
<td>Radishes</td>
<td>91</td>
</tr>
<tr>
<td>Peppers, green</td>
<td>97</td>
</tr>
<tr>
<td>Peppers, red</td>
<td>94</td>
</tr>
</tbody>
</table>

* Adapted from Dykes and Rooney [14].

![Sorghum grain image]
GLUTEN SENSITIVITY & CHRONIC DISEASES
Ruuskanen A et al. Scand J Gastroenterol. 2010;45:1197-1202
Glutenoids affect genetic markers: HLA-B8, HLA DQ2, HLA DQB, increases systemic inflammation & is associated with diseases such as:

- ADHD
- diabetes mellitus
- autoimmune disorders
- bipolar disease
- dermatitis herpetiformis
- arthritis
- Addison’s disease
- obesity
- mental depression
- myasthenia gravis
- schizophrenia
- polymyalgia rheumatica
- psoriasis
- syphilis
- scleroderma
- seborrheic dermatitis
- schizophrenia
- type 1 diabetes
- irritable bowel syndrome – IBS
- pernicious anemia
- myasthenia gravis
- lupus erythematosus
- vitiligo

GLUTEN-FREE DIET & TYPE 1 DIABETES
Gluten-free diet (6 months gluten-free diet + 6 months gluten-Containing diet) tried on 15 individuals without gluten intolerance (1st degree relatives)
Insulin sensitivity increased significantly in 12/14 subjects after 6 months of gluten-free diet (P 0.04) & decreased again in 10/13 subjects when returning to “normal” diet (P= 0.07)

IRRITABLE BOWEL SYNDROME – GLUTEN-FREE DIET
Biesiekierski Jr et al. Am J Gastroenterol 2011;106: 508-514
Diet excluded processed foods in 15 children & compared to 12 controls. They were allowed to eat only rice, turkey, lamb, vegetables, fruits, margarine, vegetable oil, tea, pear juice and water. Bread only one day a week.
Significant improvements observed:
parent ratings: 11/ 15 (73%) vs 0/12 (0%)
teacher ratings; 7/10 (70%) vs 0/7 (0%) in controls.
Reduction in number of ADHD criteria 69.4%.
"Elimination diet may be a valuable instrument in testing young children with ADHD on whether dietary factors may contribute to the manifestation of the disease."

ADHD & DIET
Exclusion diet resulted in significant reduction of physical and sleep complaints
- in the diet group of 77% (p < 0.001) compared to 17% (p = 0.08) in the control group.
- Significant reductions also in headaches, bellyaches, unusual thirst or unusual perspiration.
- a positive correlation existed between the reduction of physical and behavioral symptoms (p < 0.01).
The reduction did not differ between children with or without an atopic constitution (p = 0.7).

EXCLUSION (GLUTEN-RESTRICTED) DIET IN ADHD
Pelsser LMJ et al Lancet 2011;377:494-503
Crossover study 100 children, aged 4-8 yrs, 9 weeks + 4weeks
A. Total, B. Inattention, C. Hyperactivity  D. Abbreviated Connor Scale scores (ACS)
**PROLAMINS & TRYPTOPHAN/CORTEX**

Choi S et al Physiol Behav 2009;98:156-162

An 8-fold decrease in cortex tryptophan & a similar decrease in serotonin after feeding:

- Marked after zein
- Modest after casein & gluten
- Small after lactalbumin
- Slight increase after soy protein

---

**GLUTEN-FREE MARKET – USA**

Sapone A BMC Medicine 2012,10,13

---

**GLUTEN & WHEAT FREE BAKING - UK**

This Gluten and Wheat Free flour is a blend milled from naturally gluten and wheat free rice, potato, tapioca, maize and buckwheat

- + Xanthan Gum (or guar gum)
- + Raising agents: Mono Calcium Phosphate, Sodium Bicarbonate

Without: wheat, gluten, nuts, milk, casein, eggs, gluten, soya

---

**GLUTEN-FREE GARLIC BREAD**

2 cups almond pulp
1 cup young coconut meat
1 cup psyllium
3 cup flax meal
3 cup lemon juice
2 cloves crushed garlic
2 teaspoons garlic powder
1 soft dates
1 teaspoon salt

Blend the coconut meat, garlic and dates in a high-speed blender until smooth.

Grind that mixture with all remaining ingredients in a food processor until thoroughly combined.

Form into 2 loaves 3 cm high and 5 cm wide (1” by 2”)

Dehydrate on a mesh sheet for 14 hours at 46°C.

Remove from the dehydrator and cut into slices.

Store in the refrigerator for up to 4 days.

---

**GLUTEN I ÖL OCH STARKSPRIT**

Svenska celiakiungsdomsförbundet

listar glutenfria öl, som finns på Systembolaget.

Sol

St Peter’s

Corona

Saxon

Lapin Kulta

Starksprit tillverkas av vete (Renat och Vodka) eller malt/korn (Whisky). Vid framställningen sker en destillation som med stor sannolikhet inte överför gluten till den slutliga produkten. Livsmedelsverket har analyserat några starkspritsprodukter. Så här långt har gluten inte påvisats i någon av dem.
Modern feeds of dairy cows, less forage-based and rich in starch & carbohydrates (corn, maize grains, barley, molasses and dextrose) induces “Western diseases” – also in cows

Insulin resistance observed in calves fed on intensive milk- and lactose diet


Supplementing barley grains associated with:

- increased milk production (27.2=> 31.0 ± 1.2 kg/d)
- reduced feed intake (32.6=>25.18 kg/d ±1.30),
- reduced ruminal pH (6.8=>6.5 ± 0.03)
- increased levels of ruminal endotoxin (5,021=> 8,870) &
- increased plasma concentrations of serum amyloid A, lipopolysaccharide-binding protein & C-reactive protein

FEED/FOOD ASSOCIATION

UTFODRING & FETT I MJÖLKEN

<table>
<thead>
<tr>
<th>Fodermedel</th>
<th>AFC (%)</th>
<th>Palmitinsyra</th>
<th>Stearinsyra</th>
<th>Oleinsyra</th>
<th>Linolsyra</th>
<th>Linoleninsyra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korn</td>
<td>27.0</td>
<td>24.3</td>
<td>1.7</td>
<td>10.8</td>
<td>56.4</td>
<td>6.7</td>
</tr>
<tr>
<td>Åselsköna</td>
<td>21.0</td>
<td>10.0</td>
<td>2.5</td>
<td>18.6</td>
<td>34.8</td>
<td>7.3</td>
</tr>
<tr>
<td>Rapsslätta</td>
<td>47.5</td>
<td>4.4</td>
<td>1.4</td>
<td>54.3</td>
<td>15.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Sjöslätta</td>
<td>21.9</td>
<td>9.8</td>
<td>1.4</td>
<td>23.9</td>
<td>55.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Landfisk</td>
<td>38.0</td>
<td>5.5</td>
<td>4.3</td>
<td>21.1</td>
<td>13.3</td>
<td>55.5</td>
</tr>
<tr>
<td>Vrellslätta</td>
<td>42.0</td>
<td>11.6</td>
<td>1.0</td>
<td>2.0</td>
<td>11.9</td>
<td>20.4</td>
</tr>
<tr>
<td>Majorerlätt</td>
<td>22.0</td>
<td>16.5</td>
<td>2.2</td>
<td>22.7</td>
<td>30.0</td>
<td>3.4</td>
</tr>
</tbody>
</table>
Many thousand top athletes agree, among them the two best tennis players of the world – Novak Djokovic & Andy Murray, who abstain from gluten, lactose and processed carbohydrates, insisting that this gives them much greater energy.

FOOD INTAKE & INFLAMMATION

- 1. Low intake of fresh plant foods; greens, vegetables, fruits, spices
- 2. High intake of proteotoxins: casein, gluten, zein (corn) etc
- 3. High intake of heat- and storage-induced proteotoxins: glycated (AGES), lipoxidated molecules (ALEs), processed carbohydrates & animal fats induces:
  - Dysbiosis: reduced numbers & diversity
  - Body membranes leaking like a sieve; leaky gut, leaky airways, leaky skin, leaky vagina, leaky eye cavity, leaky nose, leaky placenta, leaky blood-brain barrier etc.

Louis Camille Maillard 1878 – 1936

Undertook studies in 1912 of the reaction between amino acids and sugars, and suggested association to development of chronic disease, especially renal disease.

This work was considered a major contribution, and the reaction was named after him – Maillard reaction & he was awarded several prices, including the French Academy of Medicine award in 1914.

AGEs/ALEs – AMPLIFIERS OF INFLAMMATION

Bengmark S J PEN 2007;31:430-440

Review:

Advanced Glycation and Lipoxidation End Products-Amplifiers of Inflammation: The Role of Food

AGEs/ALEs – AMPLIFIERS OF INFLAMMATION

Bengmark S J PEN 2007;31:430-440

Heat-treated glycated proteins induce about 50 X more free radicals than non-glycated proteins - AGEs and ALEs, which:

- accumulate in tissues (amyloid) & make the body auto-fluorescing
- impair DNA repair mechanisms
- induce tissue accumulation of toxins
- reduce antioxidant defense
- induce inflammation & infection
- weaken immune system & accelerate development of various diseases


DISEASES WITH ELEVATED AGEs/ALEs

- Aging
- Allergy
- Autoimmune diseases
- Alzheimer’s disease
- Parkinson’s disease
- Amyotrophic lateral sclerosis
- Huntington’s disease
- Stroke
- Familial amyloidotic polyneuropathy
- Creutzfeld-Jakob disease
- Down’s syndrome
- Atherosclerosis
- Cardiovascular disease
- Cataract
- Glaucoma
- Macula degeneration
- Diabetes
- Hormone deficiencies
- Polycystic Ovary Syndrome
- Liver cirrhosis
- Chronic pulmonary disorders
- Rheumatoid diseases
- Fibromyalgia
- Ruptured Achilles tendon
- Osteoporosis
- Nephropathies
- Parodontosis
**SOURCES OF AGEs**


**AGEs/ALEs IN FOODS**

**HEATED DAIRY:** powdered milk (ice cream, baby & clinical nutrition formulas) cheese, espec when heated: rich in pizza, tacos, nachos, salads, fast-food sandwiches and sauces & brown cheeses

**HEATED GRAIN PRODUCTS:** Bread esp. toasted bread, bread crusts & crisp breads

**HEATED MEAT (bacon, sausages etc), POULTRY, FISH:** content increases as one goes from boiling to oven frying: boiling (1000 kU/serving) < roasting (4300 kU) < broiling (5250 kU) < deep frying (6700 kU) < oven frying (9000 kU/serving)


**HEATED VEGETABLE OILS:** olive oil ca 8000

Egg yolk powder, lecithin powder, coffee, espec dark roasted, hard-cured teas, roasted and salted peanuts, dark and sugar-rich alcoholic beverages, broth, Chinese soy, balsamic vinegar, Cola drinks etc

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**“SMOKING WITH THE STOMACH”**

Systemic inflammation (high CRP), as seen in COPD, high BMI, hypertension, & affect lung function with a negative effect on forced vital capacity (FVC ).

Margetardottir OB et al COPD. 2009;6:250-255

**Eating cured meats:** (bacon, sausage, luncheon meats, and cured hams) induce inflammation and reduces:

- FEV1
- 3 to 4 times/mo: ~ 12 ml
- 5 to 13 times/mo: ~ 42 ml
- 14 or more times/mo: ~ 110 ml

Jiang R et al Am J Respir Crit Care Med 2007;175:798-804

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**COPD & ANTIOXIDANT INTAKE**

Tabak C et al Am J Respir Crit Care Med 2001;164:61-64

Intake of solid fruits & esp. catechin (tea & apple) is associated with an increase in FEV1 of ~ 130 ml &

reduction of four main COPD symptoms: chronic cough, phlegm, breathlessness (p < 0.001)

Intake of flavonol and flavone (vegetables) associated with reduction in chronic cough.

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**• AGEs IN VARIOUS MILK PRODUCTS**

Baptista J, Carvalho R

Food Res Int 2004;37:739-747

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**ACRYLAMIDE IN FOODS & HEALTH**

Das AB, Srivastav BB Toxicol Mech Methods 2011 E-pub

Acrylamide has been studied extensively for more than 40 years, but the first detection of acrylamide in carbohydrate-rich foods was made as late as 2002

Acrylamide has a number of adverse effects on the human body,

two major effects being

NEUROTOXICITY & CARCINOGENICITY
HEAT & ACRYLAMIDE PRODUCTION

ACRYLAMIDE IN BREAD
Granby K et al Food Additiv Contamin 2008; 25:921–929

Toasted bread contains several-fold more of acrylamide than untoasted
Wheat: 11–161 vs < 5 mg/kg
Rye: 27–205 vs 7–23 mg/kg

STEAM- vs HIGH-TEMPERATURE COOKING
Metabolic effects of diets based on mild steam-cooking vs. high-temperature cooking studied – 62 volunteers, 4 weeks

- The steamed-cooked diet induced, in comparison to the high temperature diet, significantly improved insulin sensitivity (mean 7.63 => 6.52 mU/L)
- Reduced cholesterol/pl (5%, p= 0.01)
- Reduced triglycerides/pl (9%, p= 0.01)
- Increased Omega-3 fatty acids/pl (217%, p= 0.002)
- Increased Vitamin C/pl (213%, p=0.0001)
- Increased Vitamin E/pl (28%, p=0.01)

STEAM COOKERS
SOUS VIDE - COOKING

INFLAMMATION REDUCTION:
Examples: bioflavonoids, polyphenols etc isothiocyanates in cruciferous vegetables anthocyanins and hydroxycinnamic acids in cherries, epigallocatechin-3-gallate (EGCG) in green tea, chlorogenic acid and caffeic acid in fresh coffee beans and also fresh tobacco leaves capsacin in hot chili peppers, chalcones in apples, eugenol in cloves, gallic acid in rhubarb, hisperitin in citrus fruits, naringenin in citrus fruits, kaempferol in white cabbage, myricetin in berries rutin and quercetin in apples and onions, resveratrol and other procyanidin dimers in red wine and virgin peanuts, various curcumenoids, the main yellow pigments in turmeric curry foods, and daidzein and genistein from the soy bean

HEALTH INFLUENCE OF FOODS

Positive
- Restricted energy intake
- Low-fat diet
- Fish, Marine fish oils: N-3 fatty acids
- Minerals: Zn, Mg, Se, S etc
- Vitamin D – sunlight & diet
- Antioxidants - fruits & vegetables: ex. tomatoes, onions, garlic, cruciferous vegetables, hot chili peppers, turmeric
- Berries: ex: pomegranate, red wine, grape seed etc
- Teas (yerba mate, green & black)
- Some whole grain products
- Legumes & Soy products
- Others - nuts, mushrooms

Negative
- High energy intake
- High-fat diet
- High sugar diet
- High intake of dairy foods
- High intake of processed red meat (bacon, sausages)
- Animal fat – saturated
- Trans-fatty acids
- N-6 fatty acids
- Processed foods
- Foods heated above 100 C
- Gluten-containing foods
- >2 g calcium/day

MEDITERRANEAN DIET
Trichopoulou A et al BMJ 2009;338:b2337
Lifestyles like Mediterranean lifestyle (high in fruits, vegetables and fish, olive oil, low in sugar, starch & dairy products) are associated with significant reduction in mortality & contributing to health:
- low ethanol consumption 23.5%
- low consumption of meat & meat products 16.6%
- high vegetable consumption 16.2%
- high fruit and nut consumption 11.2%
- high monounsaturated/saturated lipid ratio 10.6%
- high legume consumption 9.7%
LIFESTYLE & PROGRESSION OF DISEASE
Scarmeas N et al. JAMA 2009;302: 627–637

282 early Alzheimer patients followed 5.4 yrs

Mediterranean diet, physical exercise & supplementation of vit B12 reduced the progress:
- Mediterranean diet (M) 0.60 P = .008
- More physical activity (PA) 0.67 P = .03
- Combination M+PA 0.65 P = .03

GOVERNMENTAL SUBSIDIES - USA

Meat/Dairy 73.8 %
Grains 13.2 %
Sugar/Oil/Starch/Alcohol 10.7 %
Nuts/Legumes 1.9 %
Vegetables/Fruits 0.4 %

GOVERNMENTAL SUBSIDIES
Good Medicine 2007;16, number 4

STÖD – JORDBRUK, EU
efter Grönvall A, Johansson M, Jönrup H Statistikensheten 1990

STÖD – JORDBRUK, SVERIGE
efter Grönvall A, Johansson M, Jönrup H Statistikensheten 1990

HEALTH – TEN COMMANDMENTS
7 NOS (restrict) & 3 YES (increase)

1. Restrict intake of IGF-1-inducing foods (refined carbohydrates)
2. Restrict intake of IGF-1-rich foods (dairy products)
3. Restrict intake of highly pro-inflammatory fructose
4. Restrict intake of foods heated above 100°
5. Restrict exposure to in microbe-derived highly inflammatory endotoxin
6. Restrict exposure to chemicals including pharmaceutical drugs
7. Eliminate/Minimize intake of foods rich in proteotoxins such as casein, gluten and zein (corn)
8. Increase the intake of fresh and raw greens, fresh spices and vegetables -
9. Increase intake of ancient anti-oxidant-rich, high fiber, low-calorie containing grains, seeds, peas, beans, almonds & nuts
10. Supplement vitamin D and omega fatty acids in large doses
The Saddleback Church Initiative
Collective Loss of 260 000 lbs – 130 tons

Rick Warren - The Daniel Plan
Fotograf: Shaon Fox