

Inflammation 101

How Your Diet & Lifestyle Cause Disease

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Introduction

- ✓ Native of Long Island, NY
- ✓ 1995 Draft → Kansas City Royals
- ✓ Penn State Univ. 1995-1999
- ✓ Doctor of Chiropractic – NUHS 2004
- ✓ Certified Strength and Conditioning Specialist
- ✓ Certified Coach - National Pitching Association
- ✓ ASMI Baseball Injuries Conference
- ✓ Nutrition abstract Writer – NOW Foods



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Be Ready....

You WILL be called upon to answer questions.
There is NO hiding.....



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Why this presentation?

- ✓ From older patients in my practice with unexplained pain to student-athletes who are slow to recover from their training:



What should I know about inflammation?

**I'm confused.
No wait...
Maybe I'm not.**

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Presentation Outline

- ✓ What is inflammation?
- ✓ The 'dark side' of inflammation
- ✓ Foods that cause inflammation
- ✓ Foods that fight inflammation



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What Is Inflammation?

- ✓ How the body protects against infection
- ✓ Blood vessels dilate so white blood cells can fight infection
- ✓ Fever = healthy immune system

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January 10, 2011

Lifting a Veil of Fear to See a Few Benefits of Fever

By PERRI KLASS, M.D.

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The Dark Side of Inflammation

- ✓ 2002 Issue of Scientific American:

“Today, as we live longer, exercise less, eat too much and smoke, many of us suffer from inflammation’s dark side—including its ability to contribute to atherosclerosis and other chronic disorders.”

BIRTH OF A PLAQUE

1 Excess LDL particles accumulate in the artery wall and undergo chemical alterations. The modified LDLs then stimulate endothelial cells to display adhesion molecules, which latch onto monocytes (central players in inflammation) and T cells (other immune system cells) in the blood. The endothelial cells also secrete “chemokines,” which lure the snared cells into the intima.

2 In the intima, the monocytes mature into active macrophages. The macrophages and T cells produce many inflammatory mediators, including cytokines (best known for carrying signals between immune system cells) and factors that promote cell division. The macrophages also display so-called scavenger receptors, which help them ingest modified LDLs.

3 The macrophages feast on LDLs, becoming filled with fatty droplets. These frothy-looking, fat-laden macrophages (called foam cells) and the T cells constitute the fatty streak, the earliest form of atherosclerotic plaque.



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Foods That Cause Inflammation

- ✓ Sugar
 - ✓ High fructose corn syrup
 - ✓ Acid in body → Disease
- ✓ Vegetable Oils
 - ✓ Soybean/Corn/Cottonseed/Vegetable oils
 - ✓ Omega-6 fatty acids
 - ✓ #1 ingredient in salad dressings!
- ✓ Splenda
 - ✓ Patient testimonials of increased pain/joint stiffness after starting to take Splenda¹

Newman's Own Organic Tuscan Italian Dressing

All Natural Ingredients:

Ingredients: Water, Organic Soybean Oil, Organic Distilled Vinegar, Salt, Contains 2% or less of: Organic Garlic, Organic Sugar, Organic Spices, Organic Red Bell Pepper*, Citric Acid, Organic Paprika, Organic Onion*, Gum Arabic, Guar Gum.

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Foods that Cause Inflammation Cont'd

- ✓ Gluten
 - ✓ Protein in Wheat
 - Do Oats contain Gluten?
 - ✓ They contain a different form of Gluten that do NOT cause inflammation
 - BUT...
 - ✓ Most Oat products are processed in facilities that also process wheat so the Oats get contaminated
- ✓ Bob's Red Mill Gluten-free Oats



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Foods that Fight Inflammation

B-Vitamins

- ✓ Vitamin B6²
 - ✓ Having B6 levels > 65 nmol/L = 53% lower CRP levels compared to 28.3 nmol/L (2.4 vs 4.7 mg/L)
- ✓ B12/Folic Acid³
 - ✓ Lower Homocysteine levels
 - ✓ Crohn's Disease/Ulcerative Colitis patients had
 - ✓ 18% lower B12 levels (281 vs 342 pg/mL)
 - ✓ 20% lower folic acid levels (7.7 vs 9.8 pg/mL)

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Foods That Fight Inflammation

- ✓ Vitamin K⁴
 - ✓ Decreases 14 different markers of inflammation
 - ✓ 1 Tbspn Alfalfa Powder – 9 mg vitamin K

NUTRA
nugodutch.com

Breaking News on Supplements & Nutrition - Europe

Study gives vitamin K anti-inflammation boost

- ✓ Fiber⁵
 - ✓ Increasing fiber intake from 14 to 32 g/d decreased hs-CRP by 39% (2.8 to 1.7 mg/L).



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Foods That Fight Inflammation Cont'd

- ✓ Garlic⁶
 - ✓ Significantly decreased a clotting protein called VCAM-1

VCAM-1 is critical in atherosclerosis

Commentary

See related article, pages 1255-1262.

Klaus Ley and Yuqing Huo
Department of Biomedical Engineering, University of Virginia Health Science Center,
Charlottesville, Virginia, USA

- ✓ Fish Oil⁷
 - ✓ 4 g/d decrease triglycerides by 30%
 - ✓ Recommendation source – Cod Liver Oil
 - ✓ Fish Oils, Vitamin D, Vitamin A



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Supplements to Fight Inflammation

- ✓ B-vitamin Dropper
 - ✓ Helping lower homocysteine levels
- ✓ Vitamin D Dropper
- ✓ Cod Liver Oil
 - ✓ Fish oil + Vitamin D + Vitamin A
- ✓ DeFlame
- ✓ Protoclear



ScienceDaily
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Web address:
<http://www.sciencedaily.com/telearc-2009-04/090408140208.htm>

Vitamin D Deficiency Related To Increased Inflammation In Healthy Women

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Grass-Fed vs Corn/Grain-Fed Beef/Eggs

- ✓ Corn/Grain-fed products
 - ✓ High omega-6 fatty acids
 - ✓ Inflammation!
- ✓ Grass-fed products
 - ✓ More antioxidants / omega-3 fats
 - ✓ Less calories / no antibiotics
 - ✓ “Pasture Perfect” book

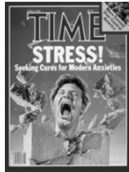


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Lifestyle’s #1 Contributor to Inflammation

Stress⁸

- ✓ 75-90% of all visits to primary care physicians are for illnesses caused or made worse by stress, including high cholesterol, high blood pressure, and heart disease
- ✓ Half of Americans are stressed by finances
- ✓ 1 in 3 are stressed by their health and employment
- ✓ Chronic psychological stress may increase our risk for cancer.



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Lifestyle Solutions to Stress

- ✓ Meditation
 - ✓ Be selfish!
- ✓ Exercise
- ✓ Supplements
 - ✓ Super Cortisol Support
- ✓ System Strength Analysis
 - ✓ Standard Process Supplements
 - ✓ Dessicated Adrenal



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Thank you!

- ✓ Please email me at PitchingDoc@msn.com if you have questions
- ✓ 2 final thoughts:

“The difference between history’s most staggering failures and its greatest accomplishments is often, simply, the diligent will to persevere.”

-Abraham Lincoln

“Instead of the principle of maximize human happiness, I prefer the principle of minimizing the suffering in the world.”

-Linus Pauling

2-time Nobel Prize winner

Best of luck to you

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