

DISCLAIMER

This presentation is for educational purposes only. The information I provide for you is not meant to diagnose, prescribe or treat illness. Please talk to your physician to be medically cleared before making a change in your diet.

Jamie claims no responsibility for the liability of any person alleged to be caused directly or indirectly due to the material I will cover in today's presentation.

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I wasn't always "THAT GUY"



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Who is this guy?

BS University of Michigan 1997



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Important!

Paleo Diet

vs.

Ketogenic Diet?

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WHAT IS THE PALEO DIET?

Natural Human Diet
Hunter Gatherer
Meat
Fruit
Veggies
Nuts
Seeds



No processed food
No Dairy
No Legumes (beans)
No Grains
No Tubers (potatoes)

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BENEFITS OF PALEO

Healthier:

- Less inflammation
- Better Blood profile: Cholesterol, Sugar
- Weight loss
- Faster Recovery

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ANTI-NUTRIENTS:

- Lectins
- Phytates
- Alkloids
- Goitrogens
- Gluten
- Saponins

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BUT WHERE DO I GET MY CARBS
AND VITAMINS?



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TROUBLE WITH DAIRY

Humans don't have a nutritional requirement for the milk of another species, nor do any other mammals.

We did not milk anything that that had horns!



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TROUBLE WITH DAIRY

Breaking Down Lactose, Milk is white pop

Because disaccharides like lactose are relatively large molecules, they cannot be absorbed by the small intestine. Before lactose can be absorbed, it must be broken down into the smaller monosaccharides. In order to do this, the small intestine produces an enzyme called lactase. The job of lactase is to attach itself to the lactose molecule and hydrolyze it into **GLUCOSE** and **GALACTOSE**. These smaller molecules can easily be absorbed by the intestines and enter the blood stream.

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TROUBLE WITH DAIRY

Adds to Insulin Resistance

FOOD	GLYCEMIC INDEX	INSULIN INDEX
White Bread	70	100
Skim Milk	32	90
Whole Milk	27	90
Reduced Fat Yogurt	27	115
Non Fat Yogurt	24	115
Fermented Milk (3% Fat)	11	90

<http://thepaleodiet.com/dairy-milking-worth/>

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TROUBLE WITH DAIRY

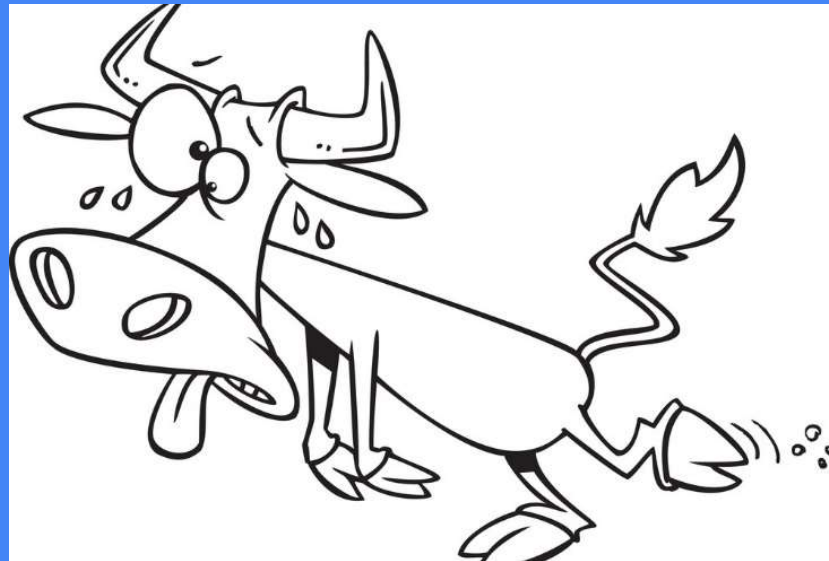
- Casein is a protein that has autoimmune-stimulating properties
- EGF Epidural Growth Factor, IGF-1 in milk and other dairy products can increase risk and tumor progression.
- Generally we already consume too much calcium, due to heavy use of dairy products, this inhibits our Magnesium absorption because they utilize the same pathway.

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Trouble with Dairy

Where's My Energy?

One of the biggest things I notice if I am treating myself to often is a drop in performance and I hold more fluid underneath my skin making me look slightly bloated. Most of all I don't seem to have as much wind as possible during my cardio or Met-con style of training.



- 1) Bartley J, McGlashan SR Does Milk Increase Mucus Production/ Med Hypothesis 2010 Apr 74;(4):732-734
- 2) The Paleo Answer: 7 Days to Lose Weight, Feel Great, Stay Young

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Trouble with Dairy

Where's My Energy?

(1)(2) One new hypothesis by Dr.s Bartley and McGlasha, they believe the answer may be from bioactive peptides, casomorphins, that are formed from the human digestive tract from milk proteins. These casomorphins, in particular beta-casomorphin 7 can enter our blood stream VIA a leaky gut (which most Americans suffer from via grains, potatoes, beans, chia, quinoa...etc) and travel to the lungs and causes a mucus production from MUC5AC. MUC5AC are glands in the lungs and respiratory tract that produce mucus.

*This is more likely if you already have some inflammation or have Asthma. This extra mucus production will make it hard for you to breath and get oxygen that you need.

- 1) Bartley J, McGlashan SR Does Milk Increase Mucus Production/ Med Hypothesis 2010 Apr 74;(4):732-734
- 2) The Paleo Answer: 7 Days to Lose Weight, Feel Great, Stay Young

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TROUBLE WITH DAIRY

But it's a good source of Vitamin D?

To even suggest that milk is a good source of vitamin D is a total stretch of the facts. In 2010 the official *Institute of Medicine* daily recommended intake for vitamin D increased from 400 IU to 600 IU per day for most people (32). Although this advice represents a substantial raise, it still falls far short of human experimental evidence showing that at least 800 to 2,000 IU per day is required to keep blood levels of vitamin D at the ideal concentration of 50 ng/ml.^{13, 14, 129, 130} An eight oz glass of raw milk (280 calories) straight from the cow without fortification gives you a paltry 3.6 IU of vitamin D (76, 128). At this rate, you'd have to drink a ridiculous 167 eight oz glasses of milk just to achieve the 600 IU daily recommendation. Because most of the milk we drink is fortified with vitamin D, then an 8 oz glass typically yields 100 IU of this nutrient.¹²⁸ However, even with fortification, you would have to drink six 8 oz glasses (1,680 calories or ~ 75 % of your daily caloric intake) of whole milk to meet the daily requirement for vitamin D. If you wanted to reach the 2,000 IU level as suggested by the world's best vitamin D researchers,^{13, 14, 129, 130} you would have to drink 20 eight oz glasses of fortified whole milk amounting to 5,600 calories. No one in their right mind would drink 20 glasses of milk a day, even if they could. As you can see from these simple calculations, whether fortified or raw, milk is an abysmal source of vitamin D. The best way to get your vitamin D is not by drinking milk, but rather by getting a little daily sun exposure as nature intended.^{131,}

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<http://thepaleodiet.com/dairy-milking-worth/>

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TROUBLE WITH DAIRY

Insulin like Growth Factor 1 (IGF-1)

Another hormone found in cow's milk that may have disastrous effects upon our health and wellbeing is called insulin like growth factor 1 (IGF-1). As implied from its name, this hormone encourages growth. Unfortunately it not only promotes growth in healthy tissues and organs, but also in cancerous growths.^{104, 115} Like all milk hormones, IGF-1 is a large protein molecule that normally should not breach the gut barrier and get into our bloodstreams. Nevertheless, recent meta analyses of 15 epidemiological studies and 8 human dietary interventions by Dr. Qin and colleagues at Soochow University have shown without a doubt that milk drinking robustly elevates IGF-1 in our bloodstreams.⁹² This effect may occur directly from the additional ingested bovine IGF-1 that crosses our gut barriers, or via indirect mechanisms. You recall that milk drinking causes our blood insulin levels to rise sharply. Whenever blood insulin concentrations increase, a series of connected hormonal events simultaneously cause IGF-1 to increase.

Reference: <http://thepaleodiet.com/dairy-milking-worth/>

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WHAT IS NUTRITIONAL KETOSIS?

A state in which there is a metabolic shift from utilizing Sugar (glucose) as a cells primary fuel source to utilizing Fat (Ketones, betahydroxybuterate and AcetoAcetate)

Adjusting Your Macros:

It is established by restricting Carbohydrate intake (usually under 50g per day while

Keeping moderate Protein levels and increase fat intake. (60%+)

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BEFORE WE GO ANY FARTHER
WHAT THE HECK ARE MACROS?

Fat = 9 calories per gram

Protein = 4 Calories per gram

Carbohydrate = 4 Calories per gram



Keto Check

Enter Nutrition Values

Macros	Total
Fat	21
Total Carbohydrate	12
Fiber	6
Sugar	2
Sugar Alcohol	2
Protein	7

CLEAR

Options

- Total Carbohydrates
- Total Carbohydrates - Fiber
- Total Carbohydrates - Fiber - Sugar Alcohol

	Calories	Percent	Goal %
Protein	28.0	11.6%	<= 25-35
Fat	189.0	78.4%	>= 60-70
Carb	24.0	10.0%	< 5-10

3.6:1

Macro	Percentage
Fat	78.4%
Carbs	10.0%
Protein	11.6%

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ATHLETIC BENEFITS OF KETOSIS

Recover Faster

Once you are keto adapted your body will actually experience less oxidative stress.

Your body produces less CO₂ per calorie burned resulting with less of PH drop. (doesn't make as much acid) and less lactate. Lactate is also mobilized better.

Since Monocarboxylic acid transporter actually takes up both Ketones and Lactate, and since there is more of it when ketones are high. Uptake of the lactate is much faster.

Burn More Stored Fat

Carry Less Water

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KETOSIS

More Available Energy

If you compare the two fuel sources, on average even a conditioned athlete maybe able to store and use about 1600 to 2000 Kcal of Glucose/Glycogen held in the liver and muscles. Lasting you maybe about ~3 hours at the most. While a Keto-Adapted Athlete could utilize >40,000Kcal of stored energy via fat. Which you could pretty much run on for days.

Fat Storage	vs.	Glycogen Storage
		
More than 40,000 kcal		Up to 2,000 kcal

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KETOSIS- ADVANTAGES

- Steady fuel source for the brain... no Bonking
- Increased insulin sensitivity and improved recovery
- Protein preservation sparing lean muscle tissue
- Less accumulation of Lactate, better PH control and respiratory function
- Improved Endurance contributes to increased strength/power
- Better Cognitive function
- Faster recovery
- Better body composition (power to weight ratio)
- Improved long endurance from steady fuel source
- Increased body fat burning
- Better VO2 maxes

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CHASING KETONES
&
THE KETOGENIC INDEX

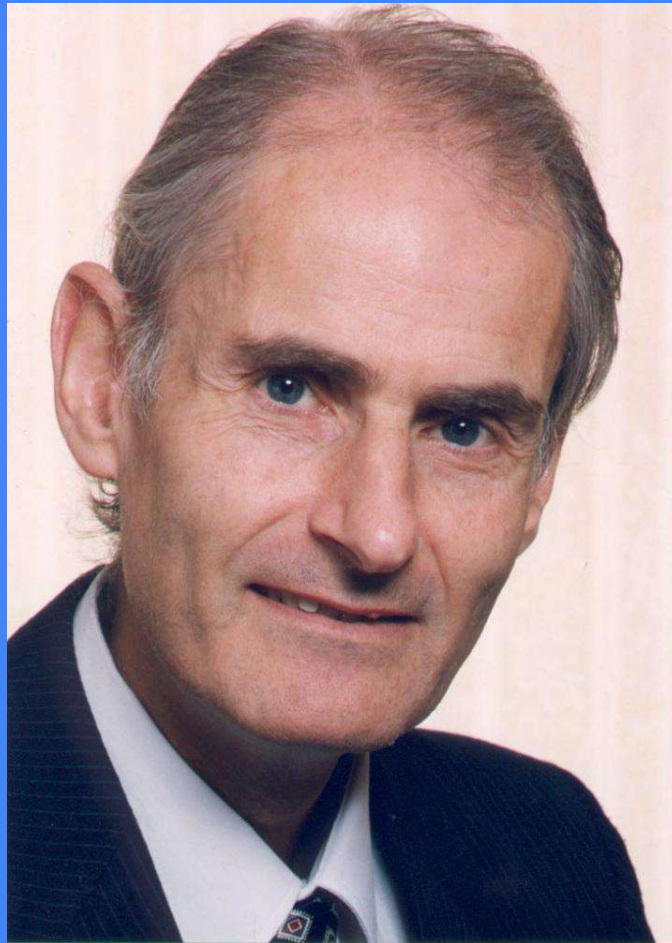


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	A	B	C	D	E	F	G
1	Notes	Date	Time	Glucose	Ketones	Ketonix	
2	Last meal 03/21/16 9am	3/22/2016	10:11 AM	91	0.7	41	
3			10:37 AM			37	
4	22.3 grams x-tones at 11am		11:00AM	x	x	x	
5			11:31 AM	98	0.8	39	
6			11:49 AM	90	0.8	39	
7		Date	Time	Glucose	Ketones	Ketonix	
8	Last meal 03/28/16 9am	3/29/2016	9:28 AM	95	0.4	24	
9	2 Table Spoons of olive Oil		9:48 AM	x	x		
10			10:10 AM	101	0.8	22	
11			10:41 AM	122	0.9		
12			11:35 AM	101	1.1		
13		Date	Time	Glucose	Ketones	Ketonix	
14					BHOB	Acetone	
15	Last meal 04/05/2016 930 am	4/6/2016	10:32AM	103	0.3	37	
16	2 table spoons of coconut oil		10:49 AM	x	x	x	
17			11:10 AM	107	0.4	34	
18			11:50 AM	113	0.3	33	
19							
20							
21		Date	Time	Glucose	Ketones	Ketonix	
22							
23	Las meal on 04/13/2016 9AM	4/14/2016	9:43 AM	107	0.4	21	wtf!
24	2 table spoons of MCT oil		9:47 AM	x	x	x	
25			10:10 AM	108	0.4	21	
26			10:04 AM	98	0.4	23	
27							
28							

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If there was a glycemic Index, Why not a Ketogenic Index?



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KETOGENICINDEX.COM

New online database compiling information gathered from Ketogenic test groups

Looking for the equivalent of Ketogenic Index and Load over time to establish a rating system.

Information will reflect groups Age, Weight, Gender how various substrates Qty and Combination Effect Ketone levels tested by Urine, Blood and Breath analysis for elevation and length of time.

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RESOURCES!

Got to
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&

KetoDaddy.com