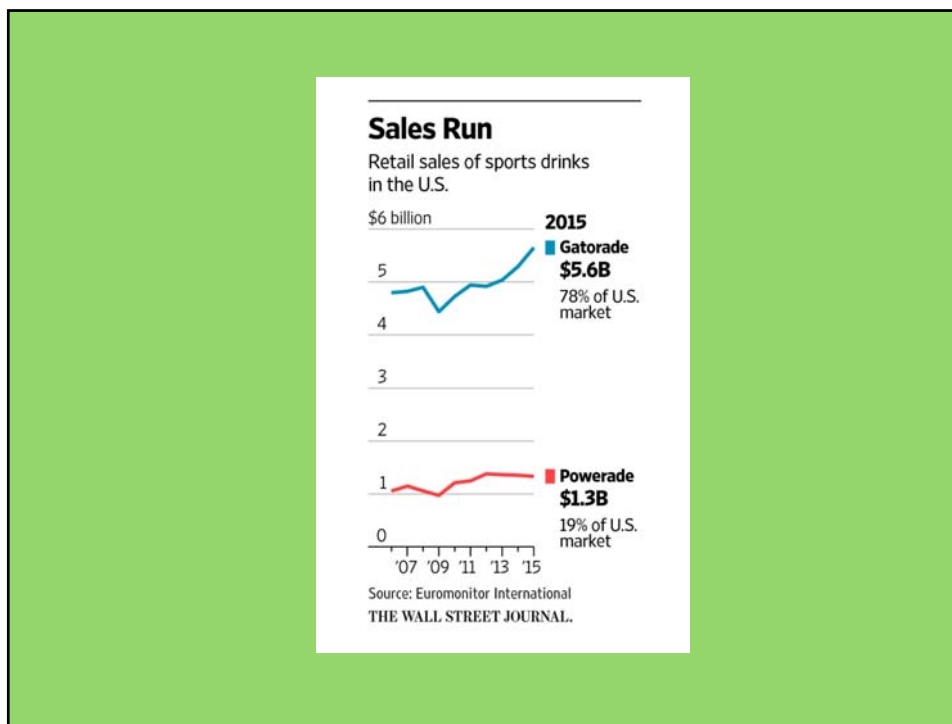


5 Years of PEIP 5 Health Myths Examined



Myth #1:

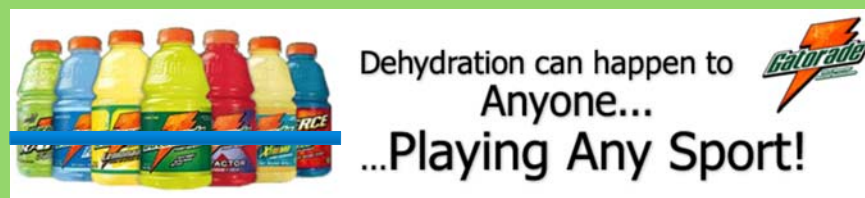




"We have done a test on that urine ... We do know that 50 per cent of them turned up today dehydrated, which is not a good sign."

Australian Institute of Sport, 1st Gatorade Fellow
Kelly Drew

In 1996, the American College of Sports Medicine produced guidelines that adopted a "zero % dehydration" doctrine, advising athletes to "drink as much as tolerable".



Diabetes UK: "Drink small amounts frequently, even if you are not thirsty—approximately 150 ml of fluid every 15 minutes—because dehydration dramatically affects performance."

"The human thirst mechanism is an inaccurate short-term indicator of fluid needs"
Bob Murray
Gatorade Sports Science Institute 2008

Best Option for Hydration?



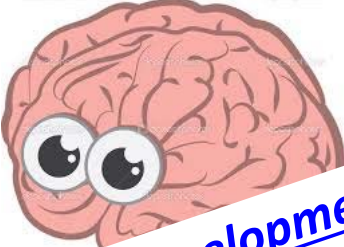
Evidence

“The combination of thirst and the consumption of beverages at meals, allows maintenance of hydration”

Institute of Medicine 2004

We conclude that over prolonged periods carbohydrate ingestion can improve exercise performance, but consuming large amounts is not a good strategy particularly at low and moderate exercise intensities and in exercise lasting less than 90 minutes. There was no substantial evidence to suggest that liquid is any better than solid carbohydrate intake and there were no studies in children. Given the high sugar content and the propensity to dental erosions children should be discouraged from using sports drinks.

BMJ 2012;345:e4797

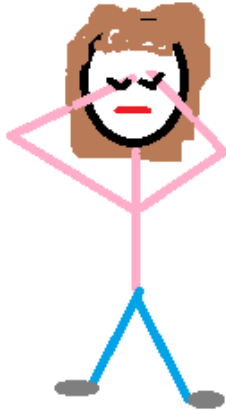


Om-

“Important for the development of a baby’s brain and eyes” – American Association of Pediatrics (Infants)

...e J Lindblad BSP, ACPR, PharmD
Knowledge Translation and Evidence Coordinator,
ACFP
Clinical Associate Professor
University of Alberta

Mom



Guilt

Systematic Reviews

- At least 11 systematic reviews on visual and cognitive development:
 - 5 “positive”¹, 6 “negative”²

1. Koletzko. *Ann Nutr Metab.* 2014;65:49-80. Jiao. *Am J Clin Nutr.* 2014;100:1422-36. Qawasmi. *Pediatrics.* 2013;131:e262-72. SanGiovanni. *Early Hum Develop.* 2000;57:165-88. Campoy. *Br J Nutr.* 2012;107:S85-S106.

2. Gibson. *Lipids.* 2001;36:873-83. Sun. *J Perinatol.* 2010;50:867-74. Beyerlein. *J Perinat Gastroenterol Nutr.* 2010;50:79-84. Lewin. *AHRQ.* 2005 No. 05-E025-2. Simmer. *Cochrane Database System Rev.* 2011;12:CD000376. Qawasmi. *Pediatrics.* 2012;129:1141-9.

Neurocognitive Outcomes

- Koletzko 2014 (example)
 - 2 meta-analyses: no effect on cognition
 - 5 newer studies: effect on some measures at 6-9 years of age
 - Agostoni: higher IQ at 4 months, but not 1 or 2 years
 - DeJong: at 9 years, no benefit except among infants whose mothers smoked. If no smoking, verbal memory scores lower, but executive function scores higher
 - Colombo: at 6 years, benefit on 3 scales of cognition, no effect on 3 others
 - Willats: at 6 years, no difference in IQ on 3 tests, but PUFA 1.4 seconds faster at processing information
 - Drover: no difference in school readiness; PUFA had lower receptive vocabulary at 2 but not 3.5 years

Vision: 12 months

- Two meta-analyses (examples):
- 1. LogMAR WMD=-0.11 (-0.14, -0.02)
 - Equals ~1 line on Snellen chart improved with PUFA but LOTS inconsistency ($I^2=92\%$).¹
- 2. LogMAR Mean Difference: -0.15 (-0.17, -0.13). $I^2=0\%$.²
 - Based on 3 studies from the same group using sweep VEP only
 - No difference on Teller (3 RCTs) or Sweep VEP (Cy/deg; 1 RCT) -0.01 Cy/deg (-0.12, 0.11) $I^2=0\%$

1. Qawasmi 2013. 2. Simmer 2011

Bottom Line

- No consistent effects on neurocognitive outcomes
 - no benefit long-term.
- Vision
 - One group consistently finds small benefits at 12 months (at best one line difference on Snellen chart), but others haven't replicated.
- Likely no negative effects except \$\$\$



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JerWilliamson.com

What are the Benefits (or harms) of chocolate?

**SAVE THE EARTH,
ITS THE ONLY
PLANET
WITH CHOCOLATE**

G Michael Allan

Chocolate & Cardiovascular disease

- 6 systematic reviews
 - 5-9 observational studies (mostly prospective cohort)
 - 75,408-157,809 adults and followed 8-16 years
 - Highest consumption versus little to no consumption

Outcome	Relative Risk	Notes
CVD overall	0.63 (0.44-0.90)	0.75 (0.54-1.05) 2 studies vs 6
MI/Angina	0.90 (0.82-0.97)	0.71 (0.56-0.92) & dose analysis +ve
Stroke	0.81 (0.73-0.90)	0.71 or 0.81 & dose analysis +ve
Heart Failure	0.81 (0.66-1.01)	0.95 (0.61-1.48) 2 studies vs 5


1) BMJ. 2011;343:d4488. 2) Heart. 2015;101:1279-87. 3) Heart. 2016;102:1017-22. 4) Neurology. 2012;79:1223-9. 5) Nutr Metab Cardiovasc Dis. 2016;26:722-34. 6) Curr Atheroscler Rep. 2011;13:447-52.


Surrogates and Other Health Issues

- Blood pressure: 3 Sys Rev¹
 - 10-20 RCTs, 297-856 pts
 - ↓ ~3.6 Systolic & ~2.5 Diastolic
 - Less if normotensive, longer study or if comparator had any cocoa.
- Lipids: 2 Sys Rev²
 - 8-10 RCTs, 215-320 pts
 - ↓ LDL 0.15mmol/L
 - No other statistical different
- Depression¹
 - No research (?emotional change ≤90 minutes)
- Headache (migraines)²
 - No clear association
- Acne
 - Observational data: Chocolate ~doubles risk of acne³
 - 2 RCTs (13 and 54 patients)⁴
 - ↑ ~4-5 lesions after 2-3 days.

1) Cochrane 2012;8:CD008893. Am J Hypertens. 2010;23:97-103. BMC Med. 2010 Jun 28;8:39. 2) Eur J Clin Nutr. 2011;65:879-86. Am J Clin Nutr. 2010;92:218-25.

1) Nutr Rev. 2013;71:665-81. 2) Acta Biomed. 2014;85(3):216-21. 3) Dermatology 2015;230:34-39. 4) J Clin Aesthet Dermatol. 2014;7:19-23. J Am Acad Dermatol. 2016;75:220-2.


PRACTICAL EVIDENCE
FOR INFORMED PRACTICE 




OCTOBER 21-22, 2016 | EDMONTON, AB

Detox Diets and Products

A Great Way to Cleanse
Your Bank Account

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FAMILY PHYSICIANS

FROM THE
TEAM WHO
BRINGS YOU 

What is Detox?

- Multiple modalities promoted¹
- Detox diets, colon “cleanses”, foot bath detox, oxygen detox, chelation therapy
- Some even promote massages and yoga as forms of “detox”

1. Harvard Health. “The Dubious Practice of Detox”. Available online.

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Foot Bath Detox

- A case study in deception¹
- Either through a patch adhered to the bottom of the foot or a foot bath with a special “ionic” solution
- Claim it works because patch and bath water change colour, proof that toxins are being pulled out
- Patch changes colour from distilled water too
- Foot bath changes colour because electrodes in it are designed to rapidly corrode when exposed to salt
- The brown water is from rust

1. Harvard Health. “The Dubious Practice of Detox”. Available online.

False Premises

1. “Our bodies accumulate toxins”²
 - Never list WHICH toxins they’re removing
 - No evidence of “mucoïd plaques” in colon
2. “Illness is the result of chemical toxins”
 - Never specific; laundry list
 - Consider how much research needed to link ACTUAL toxins to specific diseases eg. Smoking

2. Science Based Medicine. “Detox: What ‘They’ Don’t Want You to Know”. Available online.

False Premises

3. “Detox treatments remove toxins”²

- “No RCTs have been conducted to assess the effectiveness of commercial detox diets in humans”³
- No evidence for coffee enemas, vitamin injections, chelation therapy, or massage²

2. Science Based Medicine. “Detox: What ‘They’ Don’t Want You to Know”. Available online.

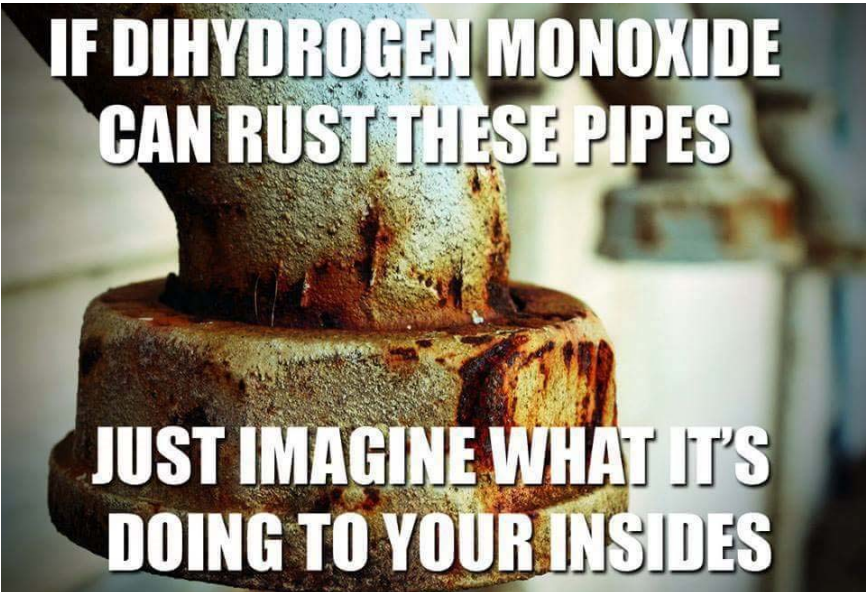
3. J Hum Nutr Diet 2015;28:675-86.

First Do No Harm

- Coffee enemas: cases of septicemia, rectal perforation, serious electrolyte abnormalities and even death²
- Chelation linked to deaths in child and adult⁴

2. Science Based Medicine. “Detox: What ‘They’ Don’t Want You to Know”. Available online.

4. JAMA. 2006;295(18):2131-2133



**IF DIHYDROGEN MONOXIDE
CAN RUST THESE PIPES**

**JUST IMAGINE WHAT IT'S
DOING TO YOUR INSIDES**

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How to Spot Detox Quackery

Our owner is Dana Lillman MPH, who TIME magazine described as "the Leading Proselytizer of Homeopathy" and ABC News touted as "Homeopathy's Foremost Spokesman." Dana has devoted his life to homeopathy. He regularly speaks at leading medical schools and universities. He has authored 10 books and authored chapters on homeopathy in 3 leading medical textbooks. Dana authors an exceedingly popular column at the HuffingtonPost.

See my column at the HuffingtonPost

Home Our Stores Articles Best Sellers Videos Links

BodyAnew Cleanse Kit
Product Description
Three products for the temporary relief of Digestive Discomfort, Urinary Pain, and Alertness Aid
Price: \$35.99



Red flags for quackery are boxed

BodyAnew Cleanse
Multipack Oral Drops
(Formerly named Heel, Inc. Homeopathic Detox Kit)

This kit contain: BodyAnew Fatigue Alertness Aid Oral Drops, BodyAnew Purity Urinary Pain Relief Oral Drops, and BodyAnew Rejuveo Digestive Discomfort Oral Drops.

Qty 1 Add To Cart

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How to Spot Detox Quackery

Dr. Oz's 48-Hour Weekend Cleanse

Are you ready for the ultimate detox solution? Dr. Oz's 48-hour cleanse will revitalize you from the inside out.

Posted on 10/06/2011 | Comments (7)



Red flags for quackery are boxed



Super Detox Juice

By Food Babe

Red flags for quackery are boxed



Is Aspartame (L-a-aspartyl-L-phenylalanine methyl ester) Safe? Media (Public) Misconceptions

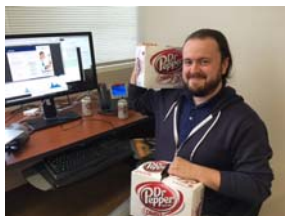
Mike Kolber
BSc, MD, CCFP, MSc
PEIP 2016



Aspartame

(L-a-aspartyl-L-phenylalanine methyl ester)

- NutraSweet or Equal
- Acceptable Daily Intake: 40-50mg/kg or 3750mg for 75kg
- 200mg in 355ml diet cola (19 cans of coke)
- Mean daily consumption US: 114mg



Aspartame and Cancers

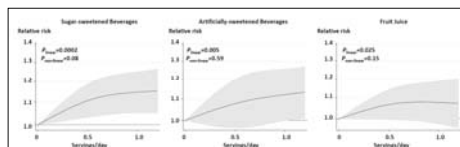
- 3 large cohort studies:
 - Examine diet (ideally >once) → aspartame intake
 - follow for years
 - Count hematological and brain cancers
- No conclusive evidence: 1 study only in men ≥ 1 serving per day had \uparrow NHL
 - Not dose-response
 - Not found in women (? multiple comparisons)
 - Possible misclassification bias

Cancer Epidemiol Biomarkers Prev 2006;15(9):1654, Am J Clin Nutr 2012;96:1419, J Nutr 2014;144:2041

Aspartame and DM

- DM: SR: 17 prospective cohort studies
 - Consumption of sugar sweetened or low cal soft drinks, fruit juice → DM risk per # servings/day (250ml)
 - Limitations: self reported DM, old studies (1960s), significant heterogeneity
- Each additional serving/day: ↑ DM risk 8% (RR)
- Adjust for within person variability 28% ↑ (similar to sugared sweetened beverages)
- ? Publication bias, residual confounding (obese), association

BMJ 2015;351:h3576



Aspartame Bottom Line

- Best evidence does not support a strong association between aspartame and cancers
- Possible association with DM (what came 1st?)

