

## Medical Myths You Need To Learn About Before It's TOO Late



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A handout for this talk can be found at  
[therapeuticseducation.org/handouts](http://therapeuticseducation.org/handouts)



Lions Gate Women's Probus Club

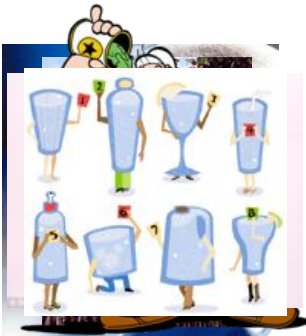


## Evidence Based Medicine/ Healthcare

*"The judicious and conscientious  
use of current best evidence from  
research, in making decisions  
about the health care of  
individuals and populations."*

Haynes 1995

## Medical Myths



Sugar makes kids hyperactive

You lose most of your body heat  
through your head

You should drink at least eight  
glasses of water a day

Bed-rest is useful

Carrots can improve your eyesight

Eating spinach can make you  
stronger

Low fat diets help you lose weight

## Medical Myths



Eat when you're cold and  
diet when you have fever

Chocolate causes acne

Natural products are  
safer

Reading with low light  
ruins eyesight

**IMPORTANT!**  
Finish all medication  
unless otherwise  
directed by prescriber.



BMJ

EDITORIALS

**A prescription for improving antibiotic prescribing in  
primary care**  
Comprehensive education programmes can reduce antibiotic prescriptions, but the effect on clinical  
outcomes is unclear  
*James McCormack professor, & Michael Allan associate professor*

**"If you say it enough  
it becomes the truth"**

"a reasonable approach for most primary care infections would be  
to tell the patient to continue the antibiotic until they have been  
asymptomatic or afebrile for 72 hours and then to stop"

New and improved  
Unsafe/<sup>vs</sup>withdrawn  
The last decade (2000s)

Drugs considered to provide substantial  
improvements (PMPRB)

**19**  
Drugs removed from the market (FDA etc)  
**23**  
Xigris - for  
severe sepsis  
Just became one of these



# Golden Pill Award

## PRESCRIBE AWARDS

	Major therapeutic advance	Clear advantage	Modest improvement
2011	0	0	0
2012	0	0	2 abiraterone (prostate CA) boceprevir (Hep C)
2013	0	0	1 meningococcal conjugate vaccine (infant immunization)

# Issues to Consider

~ 25-50% of people diagnosed with HTN don't have elevated blood pressure - BMJ 2002;325:815-7

~ 1/3 of patients diagnosed with asthma don't have asthma - CMAJ 2008;179:1121-31

~ 90% of COPD patients don't get a clinically important benefit from their inhalers - N Engl J Med 2008;359:1543-54

~ 85% of depressed patients don't get a benefit from their antidepressant - Cochrane Library CD007954

~ 50% of type 2 diabetics have an A1c level that if treated has been shown to NOT provide benefit and maybe even cause harm - Diabetes Care 2008;1:81-6, ACCORD, ADVANCE, VADT

## Is "new" better?

48 patients - usual brand of salbutamol MDI replaced for one week with a "new" MDI

Not told the replacement MDI was exactly the same brand as their usual MDI



New was better (%)	New was worse (%)	No difference (%)
46	27	27

70 % stated they had a preference for one MDI over the other

Journal of Generic Medicines 2005;2:201-8

## Statin results in patients (45-60) without cardiac disease – 5-7 years

	CHD deaths (%)	All deaths (%)	Coronary events (%)
Placebo	1.4	4.1	5
Statins	0.9	3.7	3.3
Relative risk reduction	35	NSS	35
Absolute risk reduction	0.5		1.7
Number needed to treat	200		59

(ACAPS, WOSCOPS, AFCAPS/TexCAPS)

BMJ 2000;321:983-6

## Surrogates: The Never-ending Consistently Inconsistent Story

The Marker	The Treatment
HDL	Torcetrapib <sup>1</sup> LDL down, HDL up CVD & mortality up
LDL	Niacin, Ezetimibe
Trigly	Fibrates
BP	Atenolol, Aliskiren, Doxazosin
A1c	Rosiglitazone – Almost any diabetes medications except Metformin
Homocysteine	Folate
CRP in CVD	Vitamin E, Rosiglitazone, etc.

N Engl J Med 2007;357:2109-22

## 20 "NEGATIVE" STUDIES IN A ROW

### LIPIDS

AIM-HIGH, HPS2-THRIVE (niacin)  
ACCORD (fibrates)  
dalOUTCOMES (dalcetrapib)  
STABILITY (darapladib)

### DIABETES

ACCORD, ADVANCE, VADT (aggressive A1c lowering)  
ROADMAP (olmesartan)  
ORIGIN (insulin)  
SAVOR-TIMI 53 (saxagliptin)  
EXAMINE (alogliptin)  
ALECARDIO (aleglitazar)

### BLOOD PRESSURE

ALTITUDE (aliskiren)  
VALISH, AASK, ACCORD (aggressive BP lowering)

### GENERAL

ACTIVE (irbesartan/afib)  
CRESCENDO (rimonabant)  
VISTA-16 (varespladib)

182,000+ patients



2009 Canadian Cardiovascular Society/Canadian guidelines for the diagnosis and treatment of dyslipidemia and prevention of cardiovascular disease in the adult – 2009 recommendations

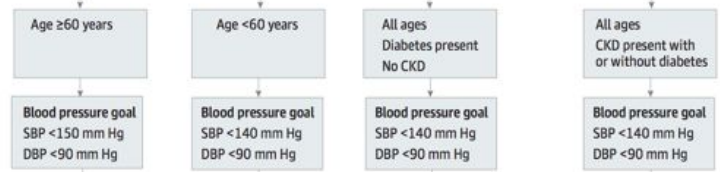
TARGETS OF THERAPY		
Risk level	Primary target: LDL-C	Class level
High	<2 mmol/L or Most patients with diabetes FRS ≥20% apoB <0.80 g/L FRS ≥20%	Class I, level A
Moderate	<2 mmol/L* or LDL-C <3.5 mmol/L TC/HDL-C ≤5.0 hs-CRP >2 mg/L in men >50 years and women >60 years of age Family history and hs-CRP moderate risk	Class I, level A
Low	≥50% ↓ LDL-C FRS <10%	Class I, level A

Level A = recommendation based on evidence from multiple randomized trials or meta-analyses

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

“The Expert Panel was unable to find RCT evidence to support titrating cholesterol-lowering drug therapy to achieve target LDL-C or non-HDL-C levels, as recommended by ATP III”

## 2014 Blood pressure guidelines JNC 8



140/90 mmHg for all except over 60 - 150/90 mmHg

### ORIGINAL INVESTIGATION

#### Dietary Fiber and Risk of Coronary Heart Disease

##### A Pooled Analysis of Cohort Studies

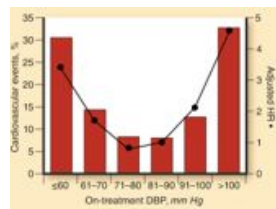
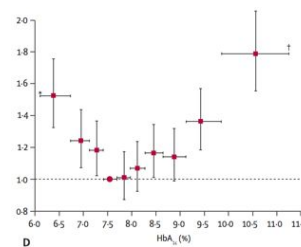
Mark A. Pereira, PhD; Eilis O'Reilly, MSc; Katarina Augustsson, PhD; Gary E. Fraser, MBChB, PhD; Uri Goldbourt, PhD; Berit L. Heitmann, PhD; Goran Hallmans, MD, PhD; Paul Knekt, PhD; Simin Liu, MD, ScD; Pirjo Pietinen, DSc; Donna Spiegelman, ScD; June Stevens, MS, PhD; Jarmo Virtamo, MD; Walter C. Willett, MD; Alberto Ascherio, MD

Arch Intern Med 2004;164:370-6

10 prospective cohorts - 6-10 years  
336,244 - avg age ~ 50-55  
5,249 events

for each 10g/day increment of dietary fiber  
CHD was reduced by 14% CI (4-22)

## What goes down must come up



### BMI<sup>3</sup> over 65

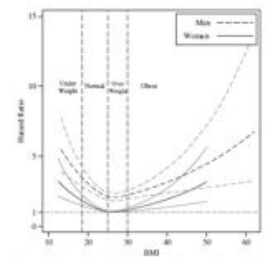


Figure 1. Hazard ratios of all-cause mortality according to body mass index (BMI) in men and women aged 70 to 75 (lines are 95% confidence intervals).

### Diastolic BP<sup>2</sup>

Similar data for  
25-59 years of age  
JAMA 2007;298:2028-37

- 1) Lancet 2010; 375: 481-89
- 2) Curr Hypertens Rep (2010) 12:290-295
- 3) J Am Geriatr Soc 2010; 58:234-241

## Association of All-Cause Mortality With Overweight and Obesity Using Standard Body Mass Index Categories

A Systematic Review and Meta-analysis

Relative to normal weight - BMI of 18.5-25)

ALL Ages

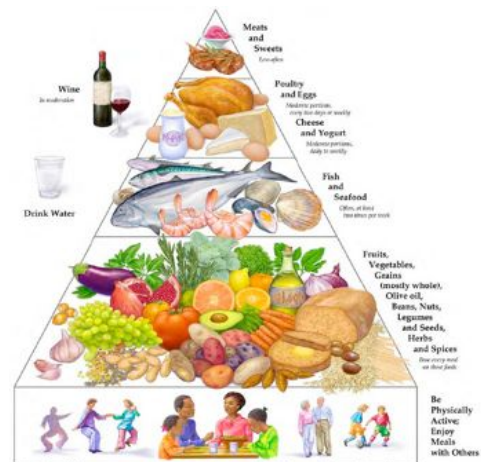
BMI of 25- <30 - HR 0.94 (0.91-0.96)

BMI of 30 - <35 - HR 0.95 (0.88-1.01)

BMI of >35 - HR 1.29 (1.18-1.41)

JAMA 2013;309:71-82

## Mediterranean Diet



# Activity

**additional benefits** not seen with  
BP/CHOL/DIABETES meds

Lots of studies on positive surrogates BP, lipids, etc

Exercise seems to improve sleep quality & fatigue

Cochrane Database Syst Rev. 2002;(4):CD003404. J Gerontol A Biol Sci Med Sci. 2008 Sep;63(9):997-1004. J Sports Med Phys Fitness. 2007 Dec;47(4):462-7

**Improves depression**

Cochrane Database Syst Rev. 2008 Oct 8;(4):CD004366

**Improves OA pain and function**

Cochrane Database Syst Rev. 2008 Oct 8;(4):CD004376

etc