

# Bale/Doneen Live Chat Session

Oct. 4, 2011

6:30-7:30 pm PST

Bradley Bale, MD

# Cleveland HeartLab Symposium and Bale/Doneen Reunion

- For those of you who attended: thanks and we hope you enjoyed it
- For those of you who could not make it: we'll notify you soon of the date and location for next year
- Lots of great moments: here is one!



# Marina versus Leslie Cho



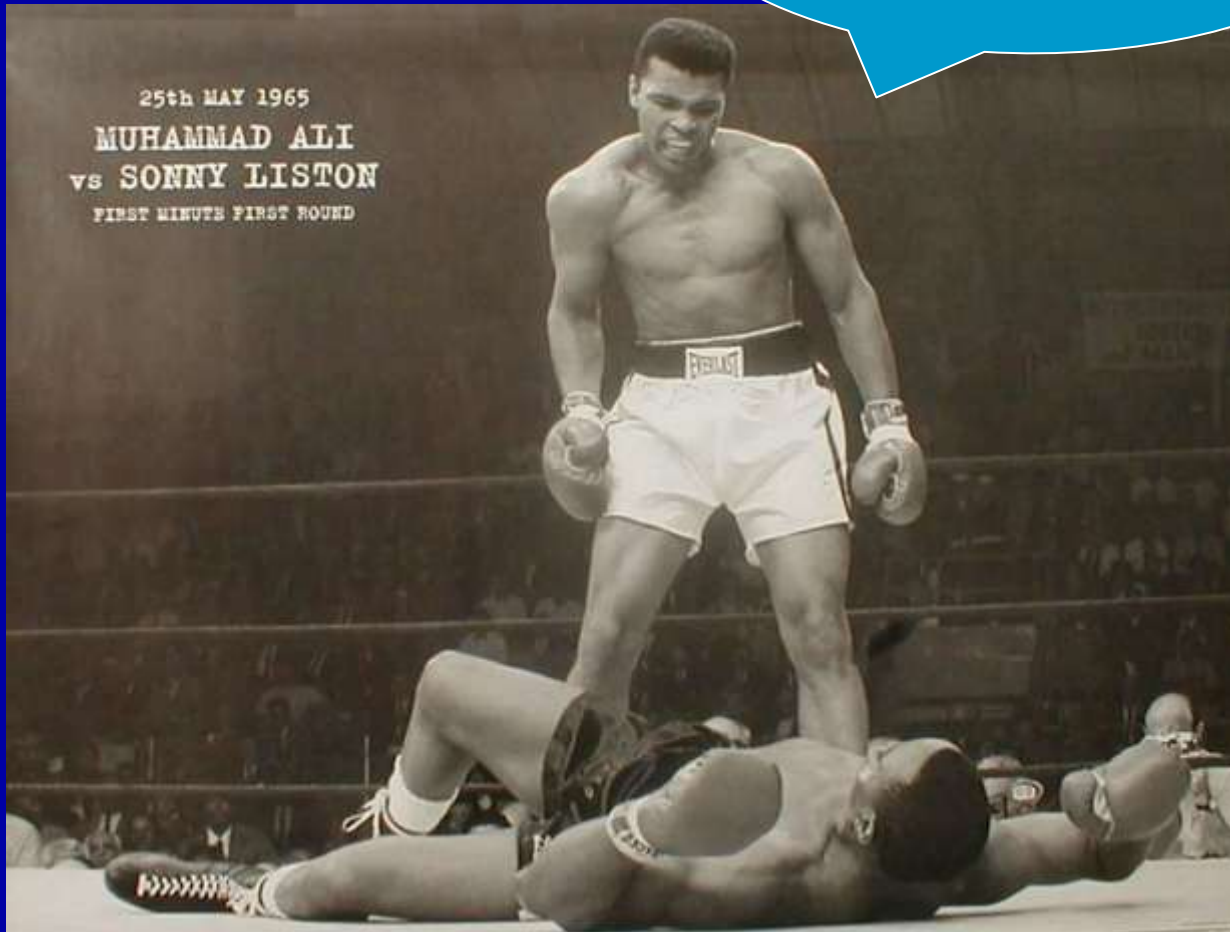
# I am Serious!!



I am not kidding!!  
No more debate on this subject!

# Dr. Johnson & HRT vs the “guidelines”....

Randomized double  
blind placebo-  
controlled trials? Oh  
yes...here they are!!



# Intention of the live chats

- New data and slides
- Discuss “hot” topics
- Case studies from attendees
- Review upcoming meetings
- Open discussion for remaining



# New Data

- Homocysteine as a CV risk marker
- AHA depression questionnaire
- Statins post stroke
- Omega 3's and recurrent AF risk
- Lipo (a) and carotid plaque
- Pre-hypertension and stroke
- Troponin and skeletal muscle
- Cardiac rehab benefits
- Carotid stenosis and dementia
- Intracranial arterial calcification
- Vit. D

# Homocysteine Elevation Associated with Increased CV Risk

Post hoc analysis of 6450 participants from the [Multi-Ethnic Study of Atherosclerosis](#) (MESA)

Hard CHD events	2.90 (1.69-4.95)	< 0.001
HR for homocysteine >15 $\mu\text{mol/L}$ vs <15 $\mu\text{mol/L}$		
All CVD events	1.79 (1.19-1.95)	0.006
Hard CHD events	2.22 (1.20-4.09)	0.01

Veeranna V, et al. *J Am Coll Cardiol* 8/30/2011; 58:1025-1033.



# Homocysteine Elevation Associated with Increased CV Risk

Post hoc analysis of 6797 adults in the third **National Health and Nutrition Examination Survey (NHANES 3)**

End point	HR (95% CI)	p
HR for homocysteine >15 $\mu\text{mol/L}$ vs <15 $\mu\text{mol/L}$		
CVD deaths	2.72 (2.01-3.68)	< 0.001
CHD deaths	2.61 (1.83-3.73)	< 0.001

Veeranna V, et al. *J Am Coll Cardiol* 8/30/2011; 58:1025-1033.

# Homocysteine: net reclassification improvement index (NRI) score

- Adding the biomarker led to significant reclassification of FRS:
- NRI of 0.35 (95% CI 0.17-0.53;  $p < 0.001$ ) in MESA
- NRI of 0.57 (95% CI 0.43-0.71;  $p < 0.001$ ) in NHANES 3.

Veeranna V, et al. *J Am Coll Cardiol* 8/30/2011; 58:1025-1033.

# Net Reclassification

## Improvement (NRI): Reclassification

- Assesses the proportion of individuals reclassified correctly by the addition of new biomarker(s)
- Clinically relevant when risk categories are linked to treatment decisions
- Incorporates information on the accuracy of reclassification
- Sensitive to changes in the number of risk categories and choice of cut points
- Gives same weight to reclassifications that are unlikely to affect clinical decisions

**Wang T J Circulation 2011;123:551-565**

# Criteria for New Biomarkers

- Relatively easy to measure ✓
- Add new information to traditional risk factors ✓
- Potential for changing therapy ✓
- Cost-effective ✓
- Predictive in different prospective cohorts ✓

Wang, T. J., et. al. **Assessing the Role of Circulating, Genetic, and Imaging Biomarkers in Cardiovascular Risk Prediction** *Circulation* 8/2011, 123:551-565

# Depression Increases Risk of CV Events

- 1,024 stable CAD pts.; 2-step AHA-depression questionnaire & the gold standard interview for major depression; then followed mean 6.2 yrs. for CV events
- Specificity for major depression with AHA screen – 91%
- Sensitivity for major depression with AHA screen – 52%
- Negative predictive value was high at 87%
- A positive AHA screen had 41% greater risk for a CV event  
HR, 1.41 (95%CI,1.10 to 1.81)  $P=0.008$

***Above was after adjusting for: age, sex, BMI, hx of MI, BP, DM, HF, HDL***

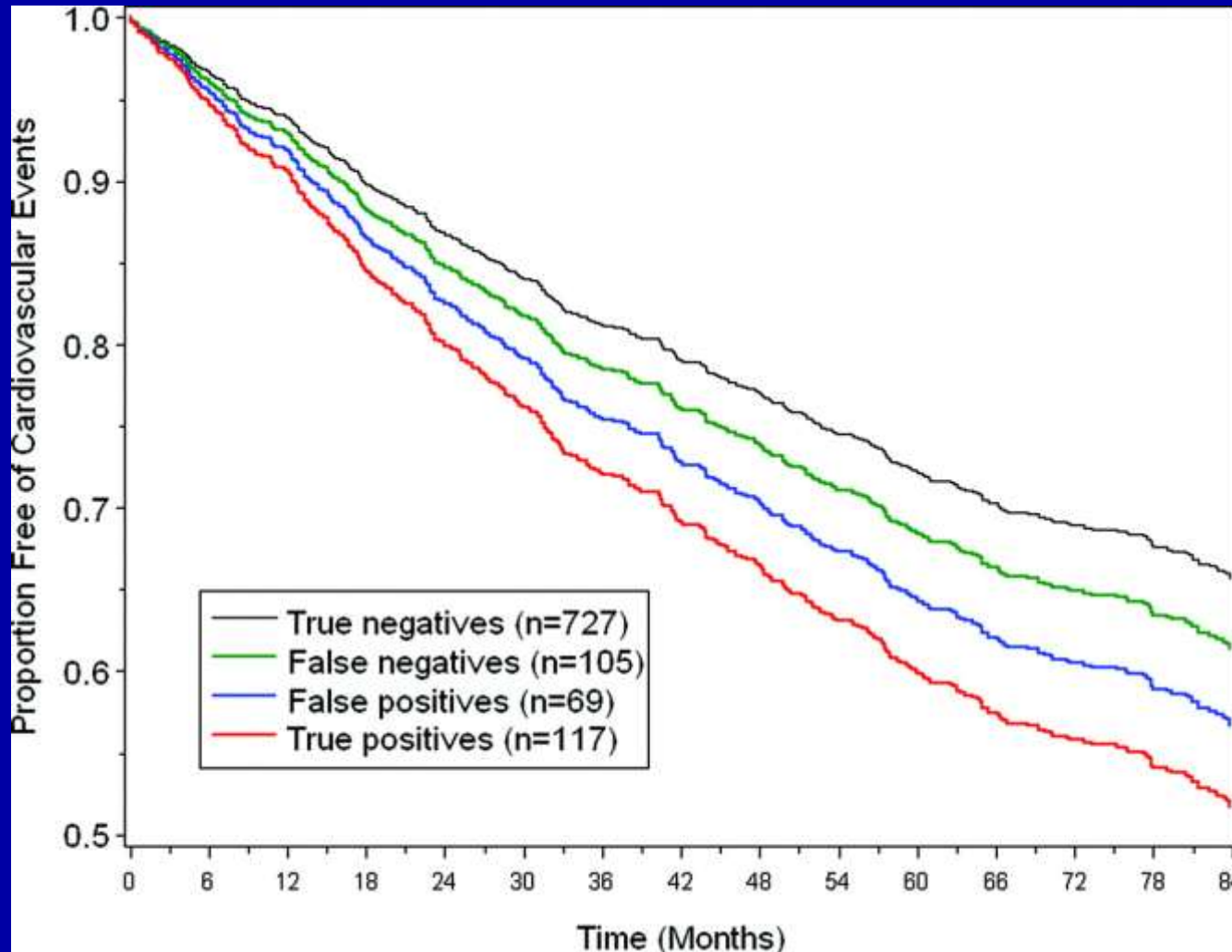
Major depressive disorder is present in approx. 20% of CAD pts

**Elderon L et al. Circ Cardiovasc  
Qual Outcomes 9/2011;4:533-540**



# Depression Increases Risk of CV Events

Age-adjusted survival free of cardiovascular events by depression status.



Elderon L et al. *Circ Cardiovasc Qual Outcomes* 2011;4:533-540

# AHA Depression Screen is Beneficial

- Detects major depressive disorder (MDD)
- Provides prognostic information
- Ensures appropriate psychiatric and CV care for CHD pts with MDD

**Elderon L et al. Circ Cardiovasc Qual Outcomes 9/2011;4:533-540**





# Depression Questionnaire from Heart and Soul Study

PHQ-2 yes/no version <sup>14</sup>			
Question	Response options (score)		
	Yes	No	
1) During the past month, have you often been bothered by feeling down, depressed, or hopeless?	(1)	(0)	
2) During the past month, have you often been bothered by little interest or pleasure in doing things?	(1)	(0)	

PHQ-9 <sup>15</sup> (Questions 1 and 2 constitute the PHQ-2 multiple-choice version <sup>14</sup> )				
Over the last 2 weeks, how often have you been bothered by any of the following problems?	Response options (score)			
	Not at all	Several days	More than half the days	Nearly every day
1) Little interest or pleasure in doing things.	(0)	(1)	(2)	(3)
2) Feeling down, depressed, or hopeless.	(0)	(1)	(2)	(3)
3) Trouble falling or staying asleep, or sleeping too much.	(0)	(1)	(2)	(3)
4) Feeling tired or having little energy	(0)	(1)	(2)	(3)
5) Poor appetite or overeating.	(0)	(1)	(2)	(3)
6) Feeling bad about yourself, or that you are a failure or have let yourself or your family down.	(0)	(1)	(2)	(3)
7) Trouble concentrating on things, such as reading the newspaper or watching television.	(0)	(1)	(2)	(3)
8) Moving or speaking so slowly that other people could have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	(0)	(1)	(2)	(3)
9) Thoughts that you would be better off dead or hurting yourself in some way.	(0)	(1)	(2)	(3)



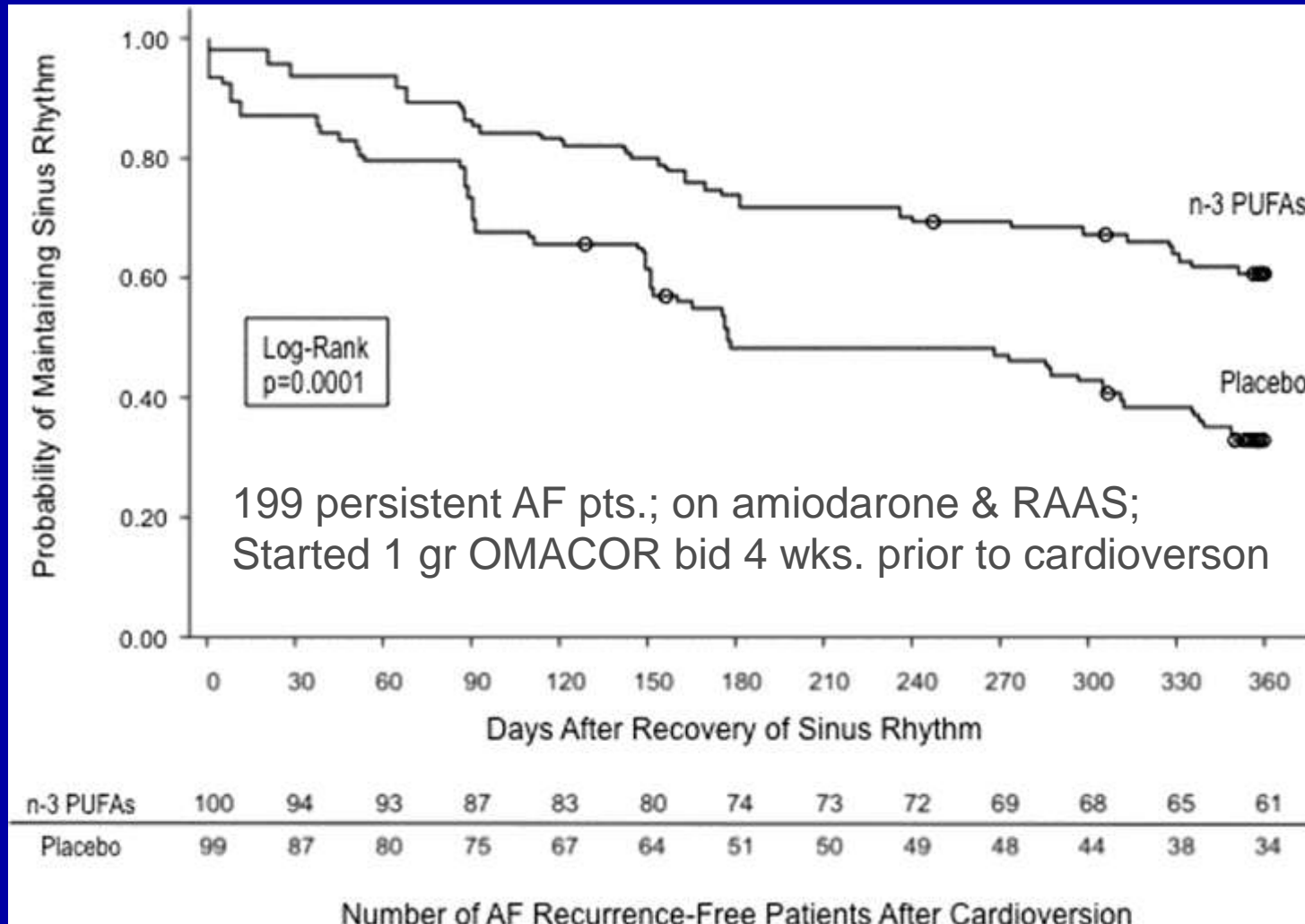
# Statins do not Increase Risk for Intracerebral Hemorrhage (ICH) in Post Ischemic Stroke Pts.

- 17,872 pts with acute ischemic stroke; btw 7/94 – 3/08; 50% received statins at discharge; mean age 78 yo; 53% women; median follow-up of 4.2 yrs
- 213 episodes of ICH
- Comparing statin users with nonusers  
HR 0.87 (95% CI 0.65-1.17)

Hackam DG, et al.. *Arch Neurol* 9/12/2011; DOI: 10.1001/archneurol.2011.228.  
Available at: <http://archneur.ama-assn.org>.

# Omega 3's Reduce AF Recurrence

Kaplan-Meier estimates of 1-year probability of maintaining sinus rhythm



# Lipo (a) Associated with Carotid ASVD (CA) in Young Ischemic Stroke (IS) Adults

- 196 IS pts.; mean age 44; 40% female; 40% had plaque identified on carotid duplex
- Age, smoking, DM, BP, TG, statin therapy, and Lp(a) significantly associated with CA.
- Multinomial logistic regression analysis showed a significant graded association of Lp(a) with CA  
 $p < 0.001$

Nathalie Nasr, et. al. *Stroke* published online September 22, 2011. available <http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.624684>

# Odds Ratio of Lipo (a) Independently Predicting Carotid Plaque

Lipo (a)	Non-stenotic CA	Stenotic CA	P value
$\geq 30$ mg/L	3.11	7.44	<0.001
$\geq 50$ mg/L	3.38	10.9	<0.001

Nathalie Nasr, et. al. *Stroke* published online September 22, 2011. available <http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.624684>

# Pre-hypertension Independently Increases Stroke Risk About 50%

- 12 prospect. studies; 518,520 middle aged adults; 2.7 to 32 yrs
- RR of stroke: 1.55 (95% CI 1.35-1.79)  $p < 0.001$   
adjusted for age, sex, DM, BMI, smoking, cholesterol

## Risk of stroke by prehypertension category

Prehypertension range (mm Hg)	Relative risk (95% CI)
SBP 120-129 or DBP 80-84	1.22 (0.95-1.57)
SBP 130-139 or DBP 85-89	1.79 (1.49-2.16)

Lee M, et. al. *Neurology* 9/28/2011; 77:1330-1337.

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# Troponin T May be Elevated by Skeletal Muscle

- Proteins in diseased skeletal muscle (SM) can cause increases in troponin T levels
- Frequency ???
- Measuring serial levels will sort it out (levels should be relatively stagnant if from SM)

Jaffe AS, et. al. *J Am Coll Cardiol* 10/2011; DOI:10.1016/j.jacc.2011.08.026.

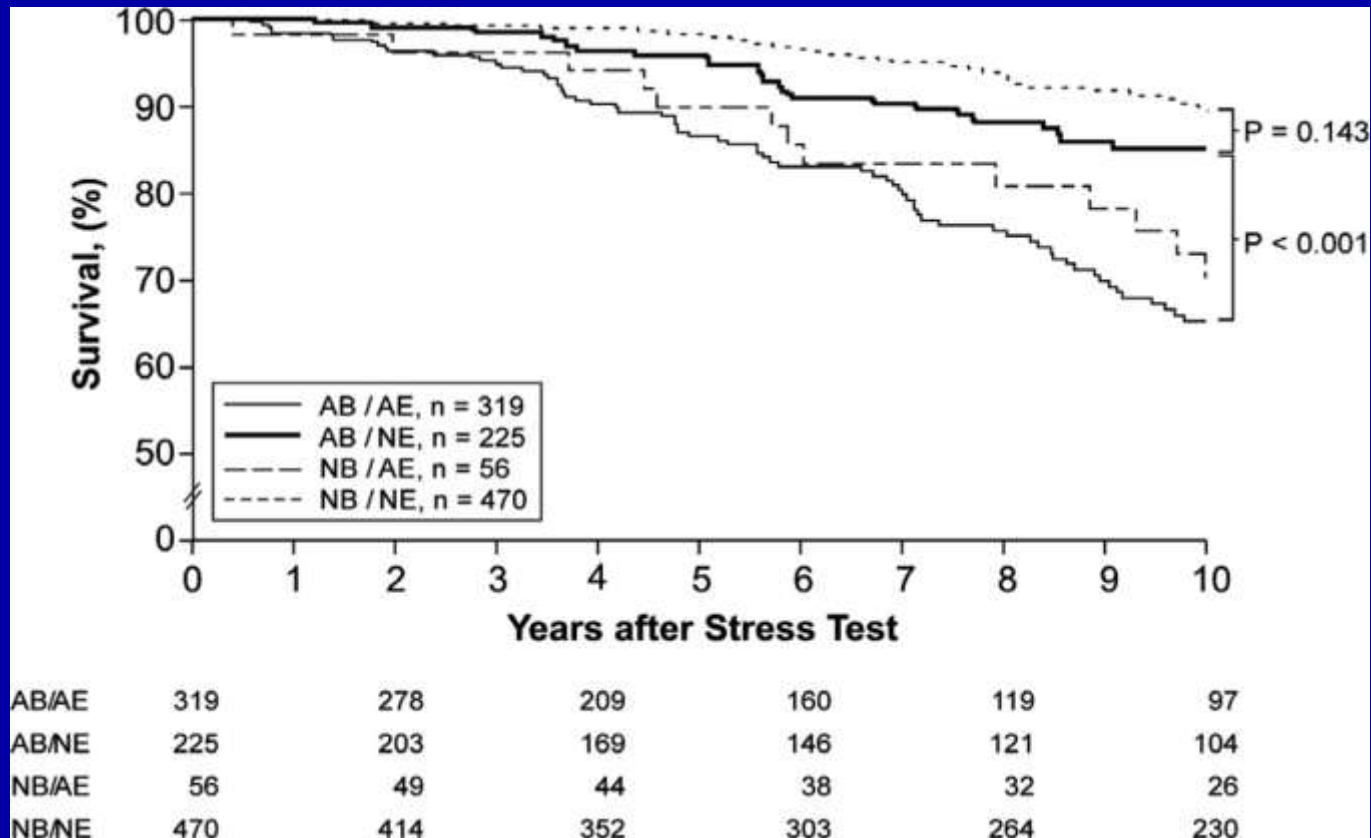


# Cardiac Rehab Improves Heart Rate Recovery (HRR) - Lowers Mortality Hazard Ratio (HR)

- 1,070 CAD pts.; completed phase two rehab; before and after sx limited stress test; normal HRR  $\geq$  13 bpm; 8 yr. follow-up
- Outcomes: 1) HRR before and after rehab 2) death
- 225 out of 544 pts. with abn baseline HHR converted to normal HRR; total cohort death number 197
- If abn HRR persisted at end of rehab, Mortality HR was 2.15 (95% CI, 1.43–3.25)  $p < 0.001$  ; after multivariable adjustment
- If abn HRR was eradicated with rehab, Mortality HR was not increased significantly  $p = 0.143$

Jolly M. A., MD, et. al. *Circulation*. 10/4/2011;124:1520-1526

# Cardiac Rehab Improves Heart Rate Recovery (HRR) - Lowers Mortality Risk



Jolly M. A., MD, et. al. *Circulation*. 10/4/2011;124:1520-1526

# Cardiac Rehab Improves Heart Rate Recovery (HRR) - Lowers Mortality Risk

- Significant predictors of normalizing HRR
  - age <65; METS increase  $\geq 1.5$ ; no DM; no PAD or prior HF; no use of nitrates

Jolly M. A., MD, et. al. ***Circulation***. 10/4/2011;124:1520-1526

# Comprehensive Cardiac Rehabilitation (CCR) in Post CVA Pts. Significantly Improves CV Risk Factors

- 80 post TIA or mild stroke pts; 6 mos. in CCR
- Significant improvement in following:
  - 1) aerobic capacity +31.4%; *P0.001*
  - 2) TC -12mg/dL; *P0.008*
  - 3) TC/HDL -11.6%; *P0.001*
  - 4) TG - 13mg/dL; *P0.003*
  - 5) waist -1"; *P0.001*, BMI -0.53 kg/m<sup>2</sup>; *P0.003*, wt. - 3 lbs.; *P0.001*
  - 6) 11 individuals (25.6% increase) entered the lowest-mortality risk category of the Duke Treadmill Score *P0.001*

Prior P. L., et. al. *Stroke* 10/2011

<http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.620187>

# Left Internal Carotid Stenosis Associated with Dementia

- Autopsy exam 112 dementia and 577 controls
- Left internal carotid stenosis ( $\geq 70\%$ ) was associated with dementia  
OR, 2.30 (95% CI, 1.14–4.74)  $p=0.02$  - after multivariate logistic regression models
- Right internal carotid stenosis showed nonsignificant trend  
OR, 1.96 (95% CI, 0.94–4.08)  $p=0.07$

Claudia K., et. al. *Stroke* 10/2011

<http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.628156>

# Intracranial Artery Calcification (IAC) Assoc. with CV Events in Post Stroke Pts

- 302 post IS pts; follow-up 2 yrs.; 45 CV events
- IAC score was significantly associated with CV events

HR 1.39; (95% CI, 1.10 – 1.76)  $p=0.007$

Bugnicourt, Jean-Marc, et. al. *Stroke* 10/2011

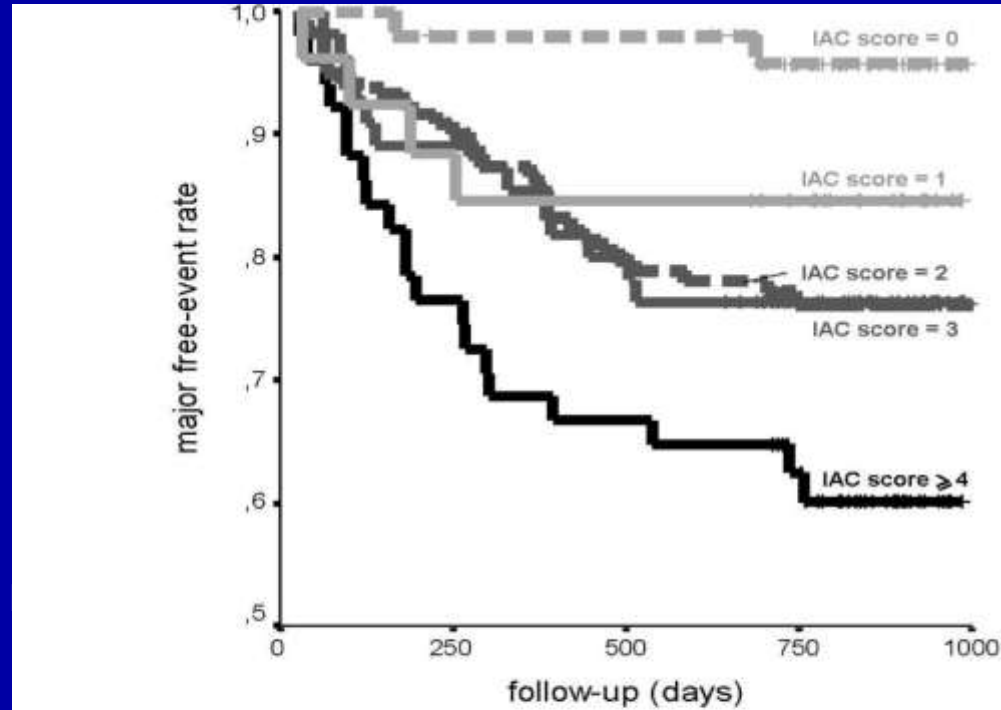
<http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.618652>

# Intracranial Artery Calcification (IAC) Assoc. with CV Events in Post Stroke Pts

Kaplan–Meier analysis of the incidence of major clinical events in patients with ischemic stroke according to the IAC scores.

Patients with the highest IAC scores had significantly higher rates of death and vascular events than those with the Scores

(log rank test,  $P0.029$ ).



Cumulative events					
IAC score	0	250	500	750	1000
IAC score = 0	0	1	1	2	2
IAC score = 1	0	4	4	4	4
IAC score = 2	0	12	25	28	28
IAC score = 3	0	7	13	13	13
IAC score ≥ 4	0	13	17	19	20

Bugnicourt, Jean-Marc, et. al. *Stroke* 10/2011

<http://stroke.ahajournals.org/content/early/2011/09/22/STROKEAHA.111.618652>



# Latest Review on Vit. D Published Today

Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Major Risk Factors for Vit. D Deficiency

- Aging
  - Increased distance from the equator
  - Winter seasons
  - Darkly pigmented skin
  - Institutionalized/  
housebound
  - Sunscreens and cover-up clothing
  - Air pollution
  - Smoking
  - Obesity
  - Physical inactivity
  - Genetic factors
  - Malabsorption
  - Renal disease
  - Liver disease
  - Certain medications
  - Glucocorticoids
  - Antirejection medications
  - Human immunodeficiency virus medications
  - Certain antiepileptic drugs
- Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Definitions of Vit. D Status

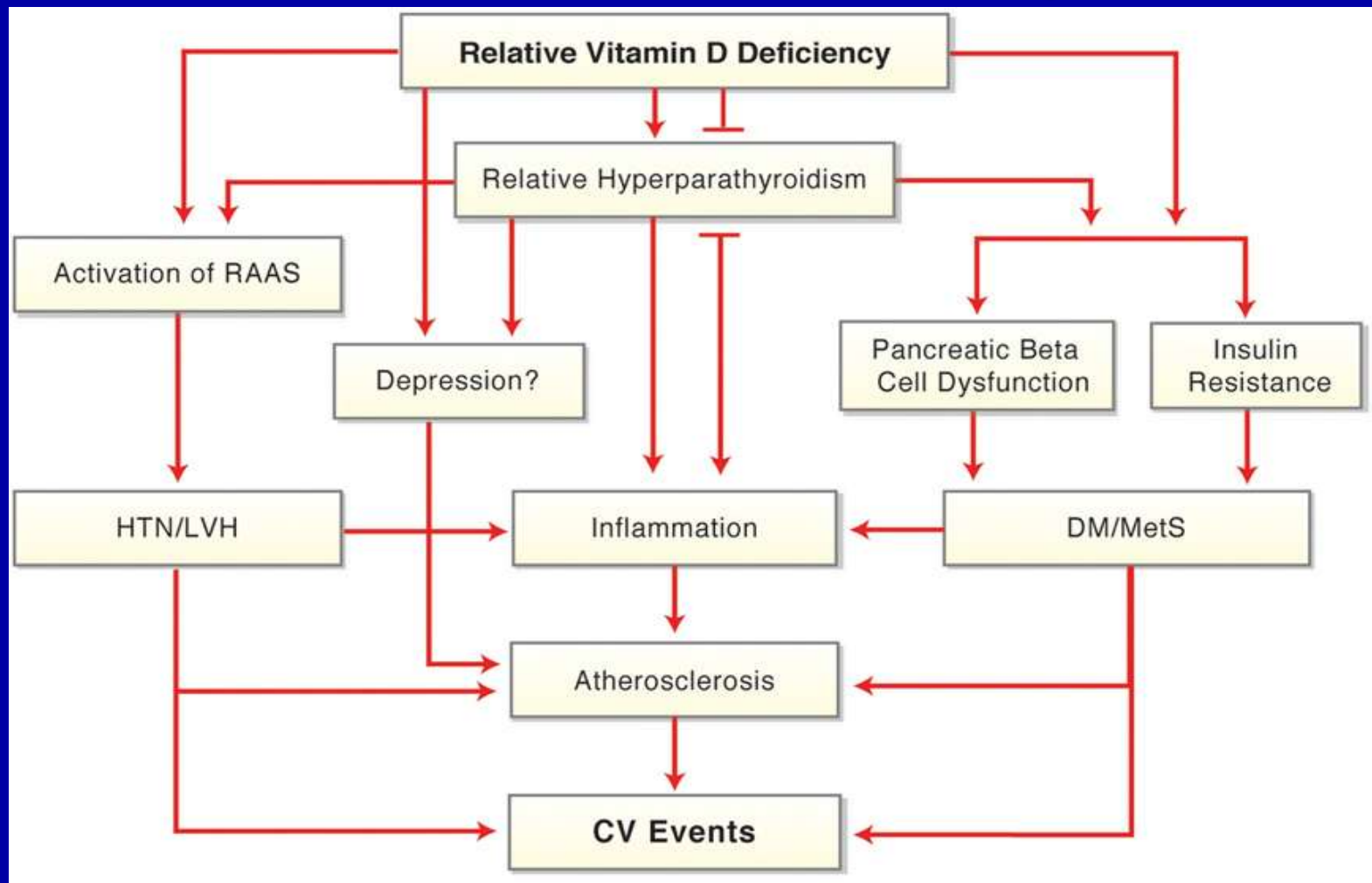
Serum 25-Hydroxyvitamin D, ng/ml	Vitamin D Status
10	Severe deficiency
10-20	Deficiency
20-30	Mild-moderate deficiency
30	Sufficient
40-50	Ideal
50-150	Intermediate data*
>150	Toxicity
Institute of Medicine Definitions†	
12	At risk of deficiency
12-19	At risk of inadequacy
20-50	Sufficient
50	Possibly harmful

\*Some data suggest increased falls, fractures, certain cancers, and even cardiovascular risk at values 50 ng/ml.

†Definitions adapted from Looker et al.

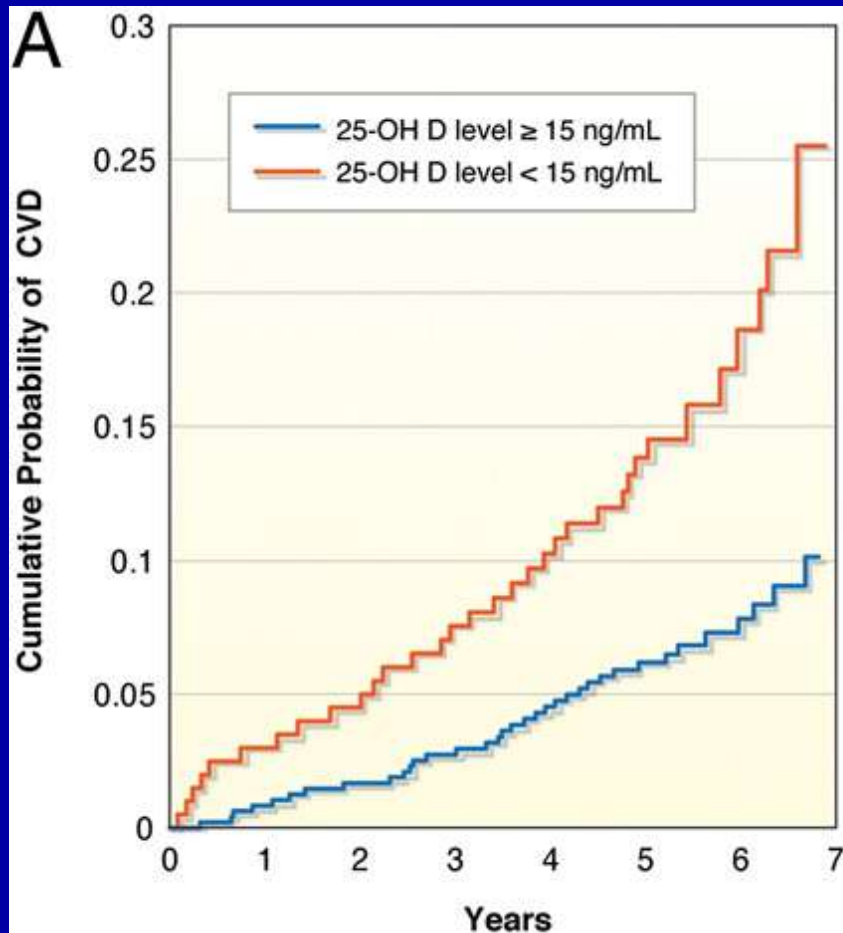
Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Potential Mechanisms for CV Effects of Vitamin D Deficiency

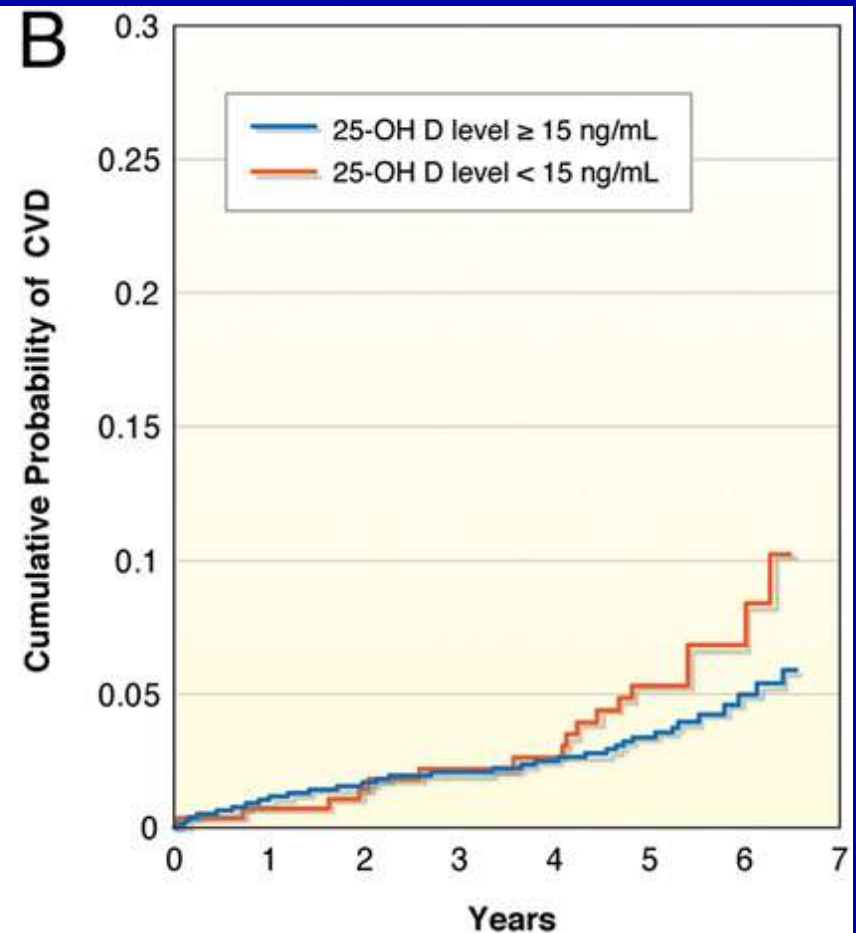


Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Impact of Vitamin D and Hypertension for CV Events in the Framingham Study



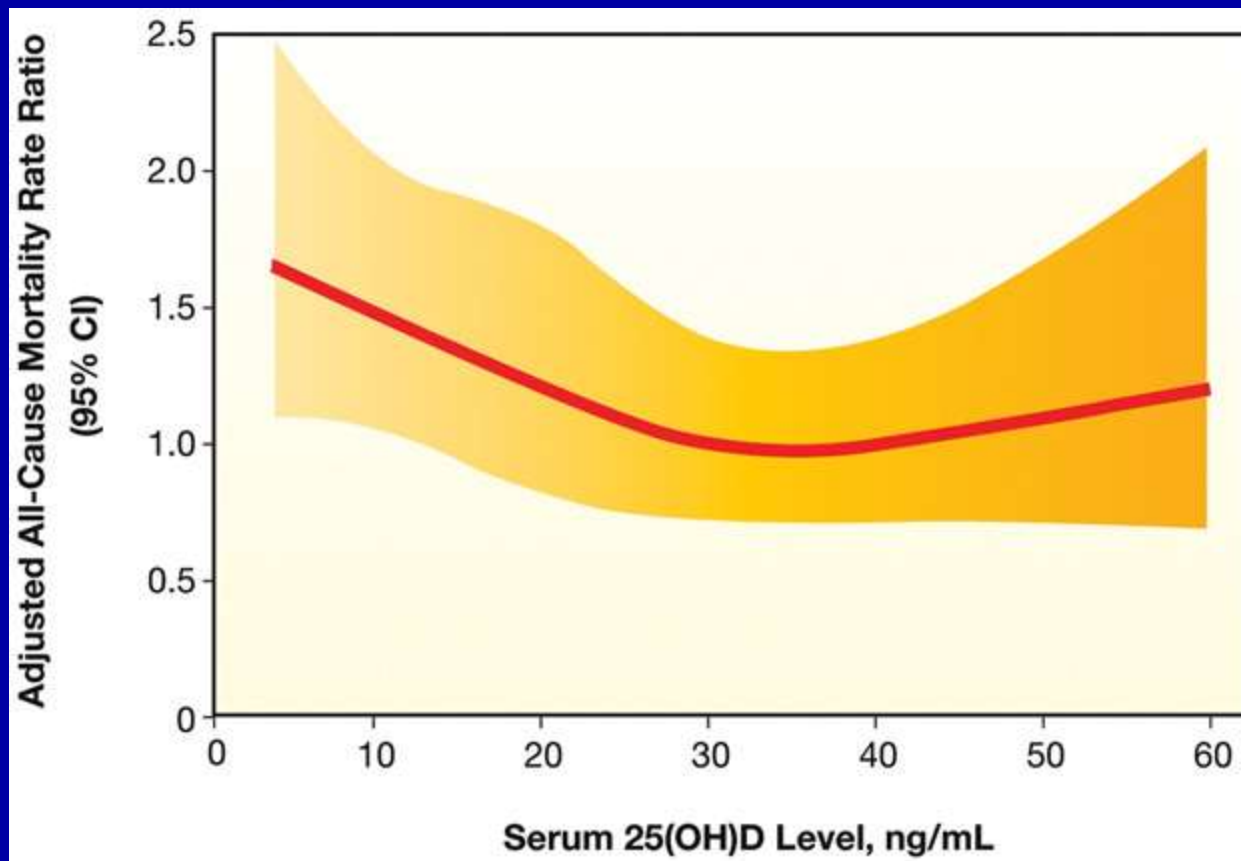
A - hypertension



B – without hypertension

Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Impact of Vitamin D on Mortality in the NHANES III Study

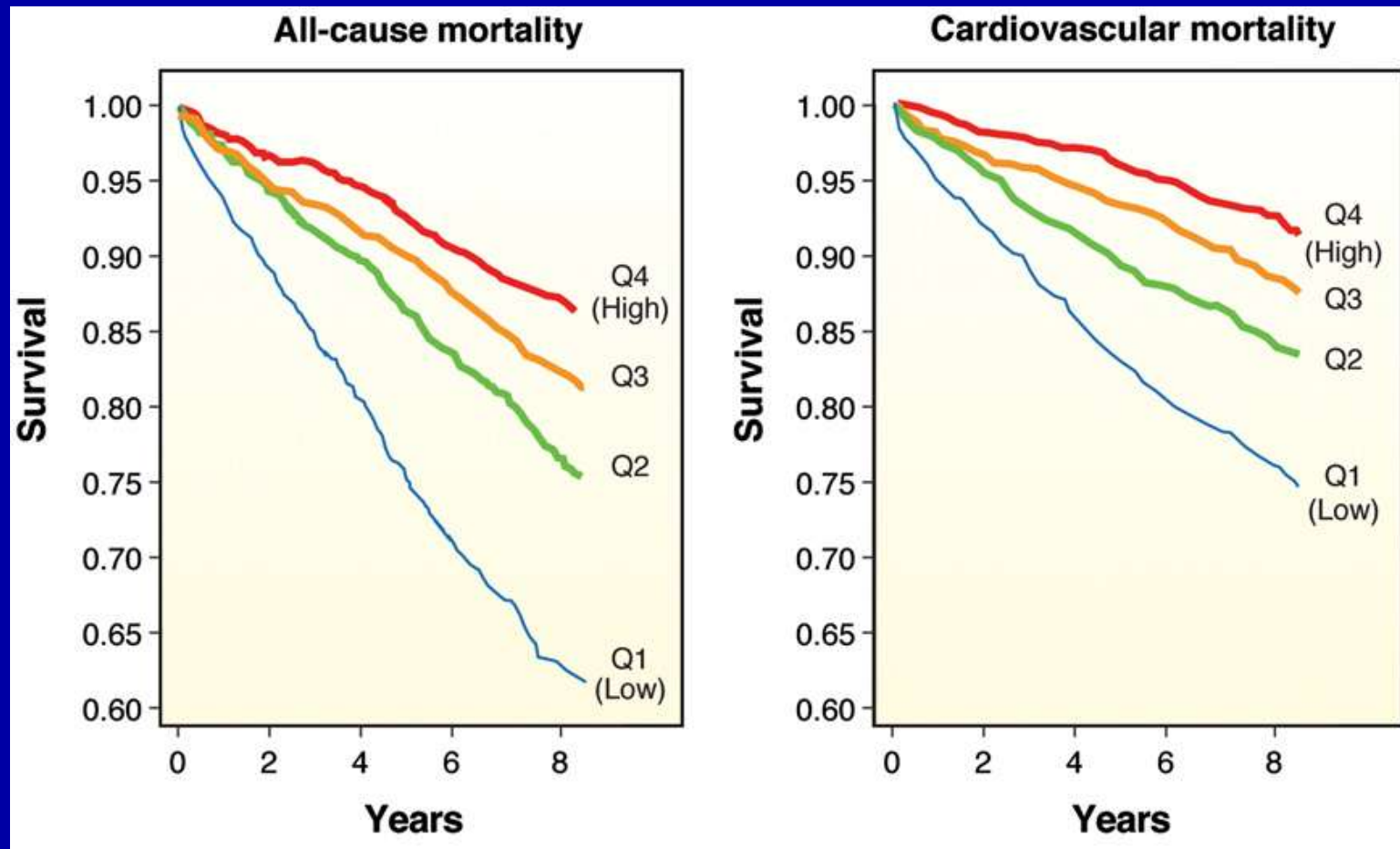


Restricted cubic spline showing the fully adjusted associations between serum 25-hydroxyvitamin D (25[OH]D) levels and all-cause mortality in 13,331 participants of the Third National Health and Nutrition Examination Survey. CI confidence interval. Reproduced with permission from Melamed et al.

Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-

# Vitamin D and All-Cause and CV Mortality

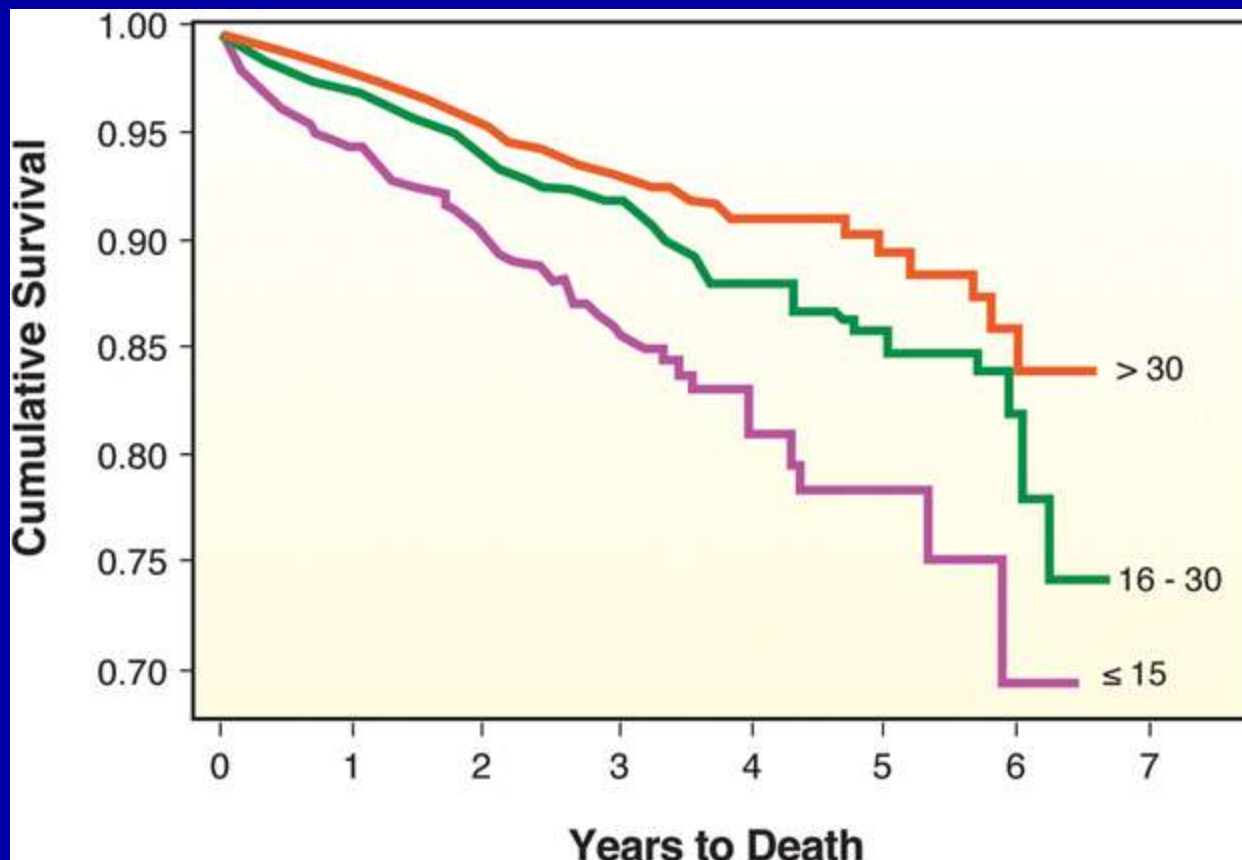
## 3,258 coronary angiographic pts



Kaplan-Meier plots of (A) all-cause and (B) cardiovascular (CV) mortality in the 25-hydroxyvitamin D quartiles (Q): Q1 (blue lines), Q2 (green lines), Q3 (orange lines), and Q4 (red lines). Log-rank test indicated a significant difference across all 25-hydroxyvitamin D quartiles ( $p < 0.001$ ).



# Vitamin D and Survival in >27,000 pts from the Intermountain Healthcare System

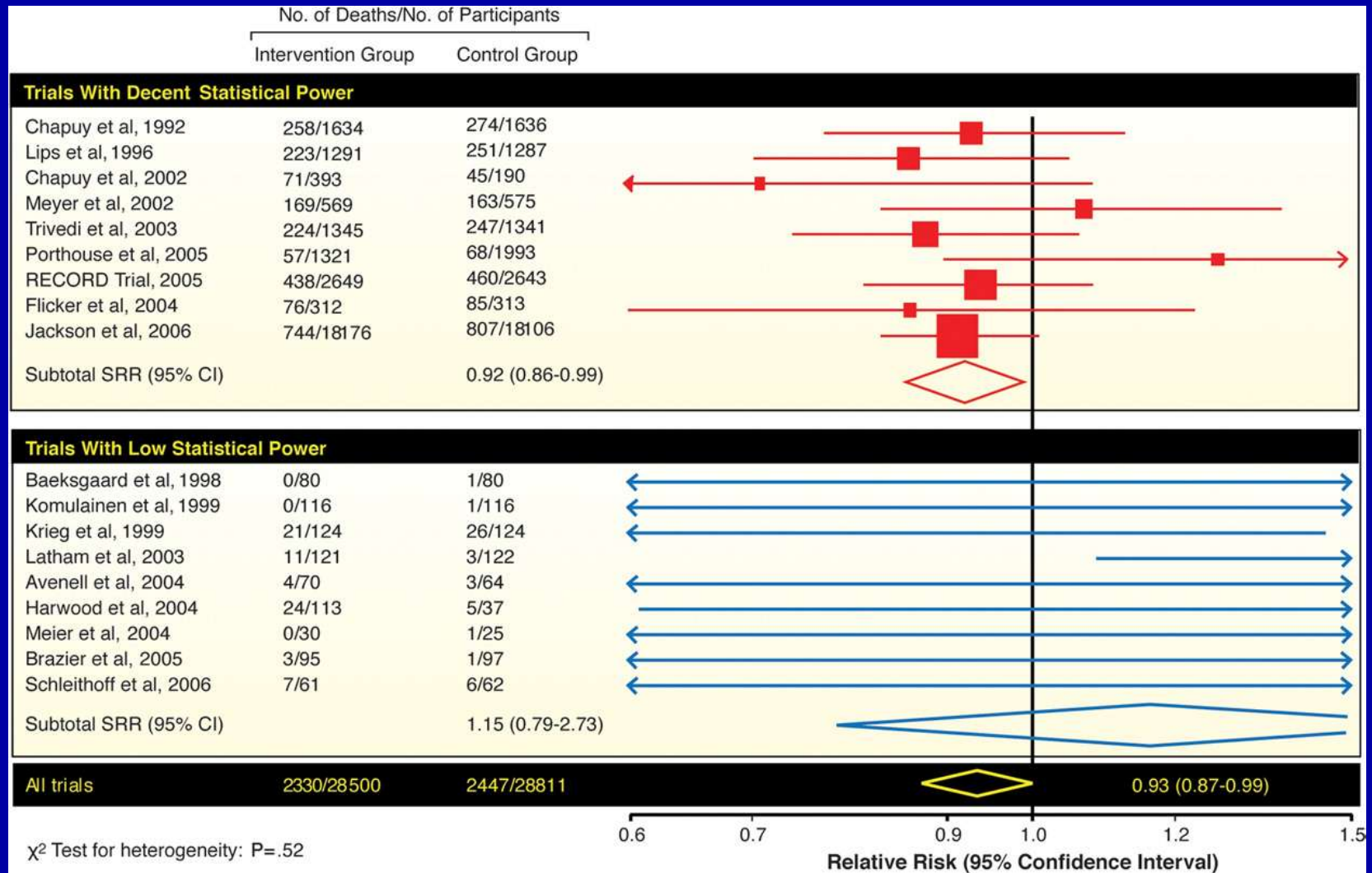


Survival differed significantly by initial vitamin D level (log-rank p 0.0001). Also significantly associated with T2DM, hypertension, dyslipidemia, CHD, myocardial infarction, heart failure, and stroke, as well as total mortality

Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

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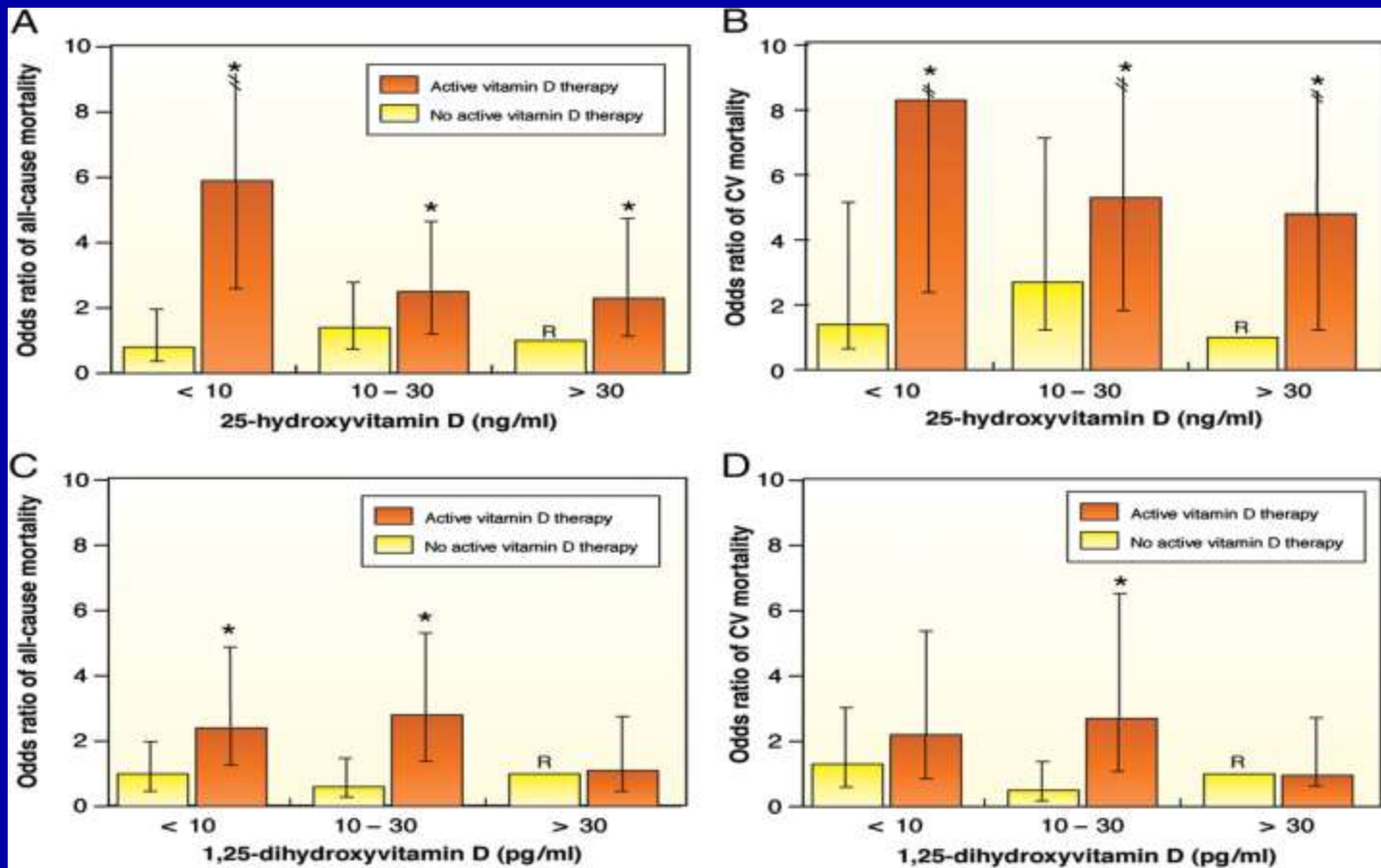
# Vitamin D Supplementation and Mortality



Meta-analysis of data on all-cause mortality in 18 randomized controlled trials with vitamin D. CI confidence interval; SRR summary relative risk.

Lavie, C. J., et al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# Vitamin D Levels and Supplementation in Hemodialysis



Multivariate-adjusted odds ratios (ORs) of 90-day all-cause and (CV) mortality for hemodialysis pts according to vitamin D levels and whether pts received rx with active vitamin D (orange bars) or no active vitamin D (yellow bars). (A) 25-hydroxyvitamin D (25[OH]D) and all-cause mortality; (B) 25(OH)D and CV mortality; (C) 1,25-dihydroxyvitamin D (1,25[OH<sub>2</sub>]D) and all-cause mortality; and (D) 1,25-dihydroxyvitamin D and CV mortality. The reference groups (R) were subjects who were rx with active vitamin D and had 25(OH)D levels 30 ng/ml or 1,25(OH<sub>2</sub>)D levels 13 pg/ml. For 25(OH)D analyses, n 984; and for 1,25(OH<sub>2</sub>)D analyses, n 719. \*p 0.05 for the comparison of the individual vitamin D level and vitamin D treatment groups with the corresponding referent groups.

# Clinical Conclusions

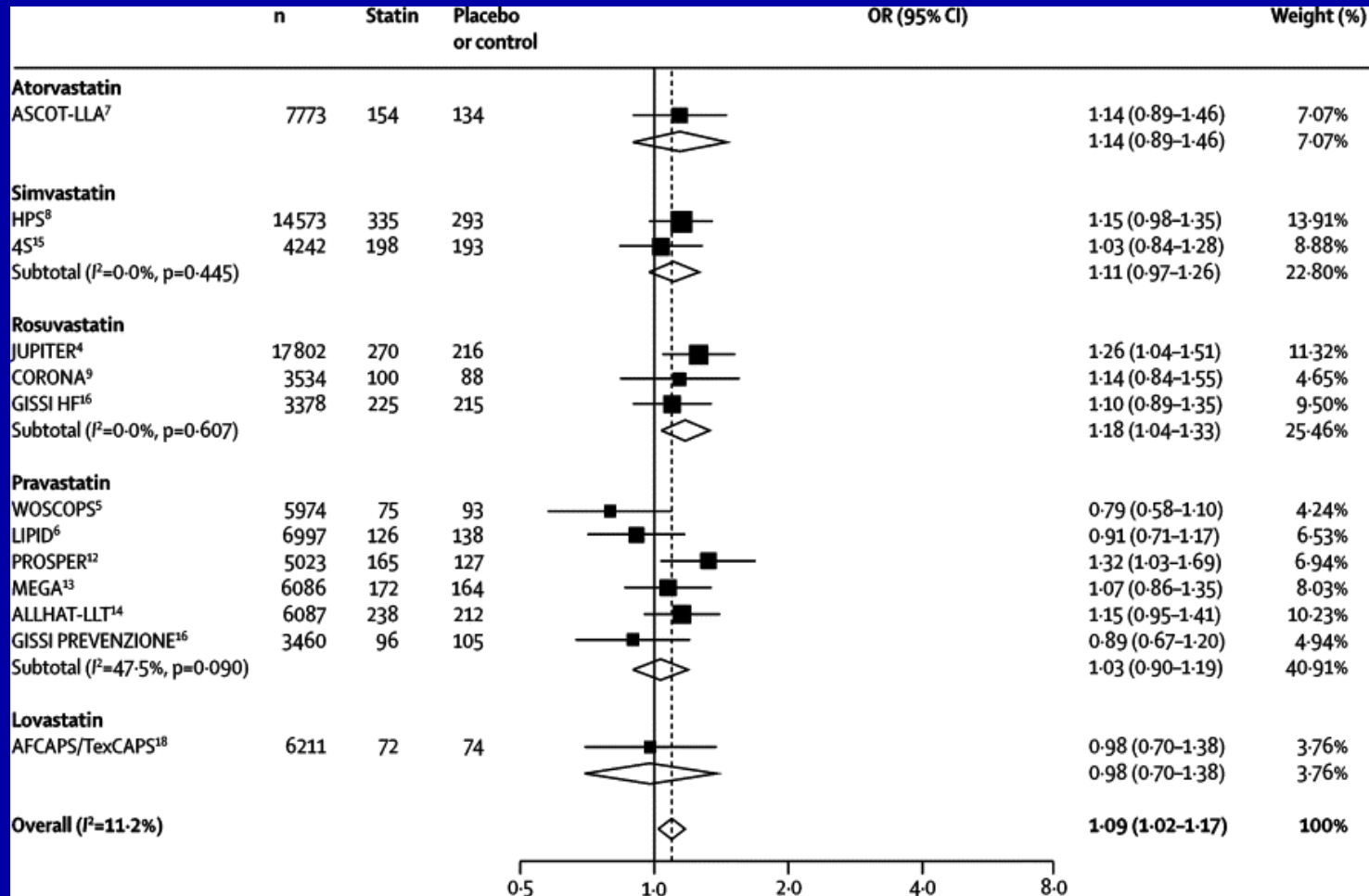
- Considerable evidence indicates that vitamin D deficiency is extremely prevalent and associated with CV disease risk factors and is associated with increased CV disease events and all-cause mortality.
- Vitamin D deficiency can be prevented and corrected easily by sunlight and/or vitamin D supplementation.
- Definitive randomized controlled trials are needed to determine whether vitamin D therapy will live up to its hype.

Lavie, C. J., et. al. *J. Am. Coll. Cardiol.* 10/4/2011;58;1547-1556

# “Hot” Topics

- Statins and Risk of Diabetes
- Is one statin better than another?
- Million Hearts Plan

# Statin RX and Incident DM



Only two trials met significance!!! Jupiter and Prosper !!!

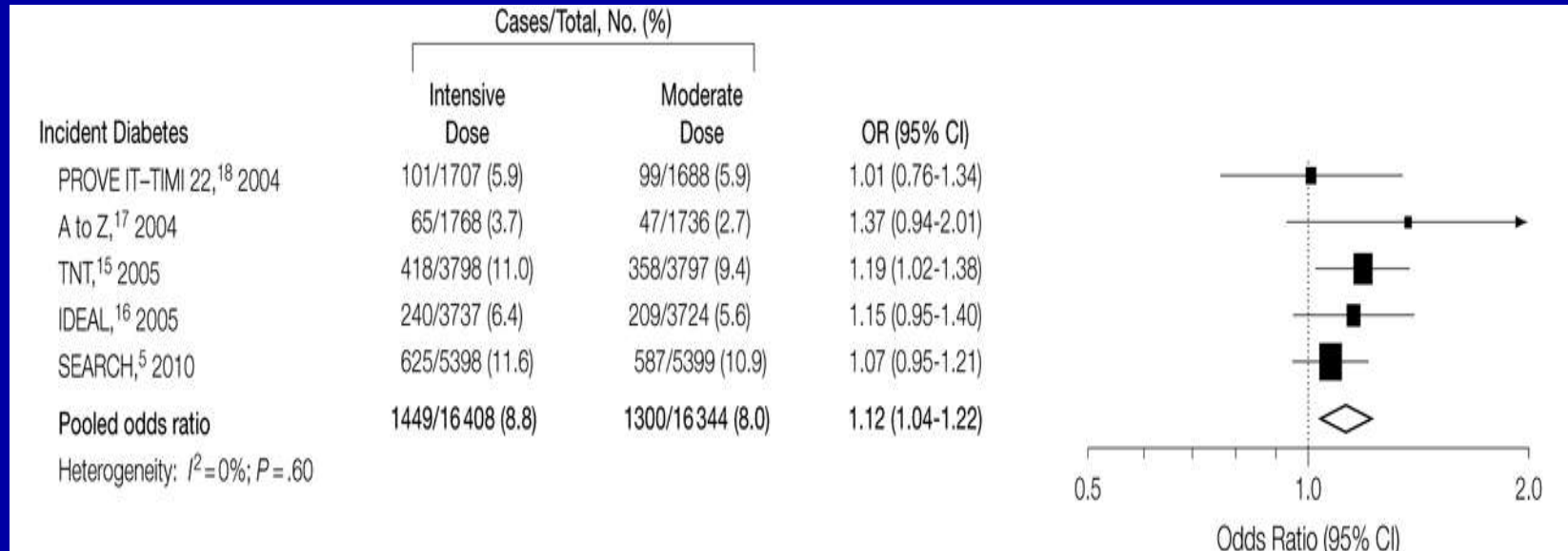
Sattar N., ProfPhD, et. al. *Lancet*. 3/2010 Vol. 375, Issue 9716:735-742

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# Meta-analysis of New-Onset DM Comparing Intensive-Dose to Moderate-Dose Statin Rx



32,752 pts without diabetes at baseline; 2,749 developed diabetes in a year

1,449 high dose statin ; 1,300 low to moderate-dose statin

Only one of the five trials was significant !!

Surprised more did not become diabetic as at least 70% were IR at baseline!!

**Preiss, D. et al. JAMA 6/22/2011;305:2556-2564**



# Baseline Data From Trials Comparing Intensive-Dose to Moderate-Dose Statin Rx

**Table 2.** Baseline Data From Trials Comparing Intensive-Dose to Moderate-Dose Statin Therapy

Source	BMI, Mean (SD) <sup>a</sup>	Age, Mean (SD), y	HDL, Mean (SD), mg/dL	LDL, Mean (SD), mg/dL	LDL Reduction, Relative % <sup>b</sup>	In Triglycerides, Mean (SD), mg/dL	FPG, Mean (SD), mg/dL	FPG Measured After Baseline
Cannon et al (PROVE IT-TIMI 22), <sup>18</sup> 2004	29 (5)	58 (11)	39 (12)	109 (31)	22	5.05 (0.44)	104 (11) <sup>c</sup>	Not specified <sup>c</sup>
de Lemos et al (A to Z), <sup>17</sup> 2004	NA	60 (11)	39 (12)	113 (27)	15	5.00 (0.39)	NA	NA
LaRosa et al (TNT), <sup>15</sup> 2005 <sup>d</sup>	28 (4)	61 (9)	47 (12)	98 (20)	22	4.89 (0.42)	97 (11)	Annually
Pedersen et al (IDEAL), <sup>16</sup> 2005 <sup>d</sup>	27 (4)	62 (10)	47 (12)	125 (35)	16	4.87 (0.44)	99 (11)	Final visit
Armitage et al (SEARCH), <sup>5</sup> 2010	28 (4)	64 (9)	43 (16) <sup>e</sup>	98 (23) <sup>e</sup>	12	4.97 (0.54) <sup>e</sup>	NA	NA

Abbreviations: A to Z, Aggrastat to Zocor trial; FPG, fasting plasma glucose; HDL, high-density lipoprotein cholesterol; IDEAL, Incremental Decrease in End Points Through Aggressive Lipid Lowering study; LDL, low-density lipoprotein cholesterol; NA, not available; PROVE IT-TIMI 22, Pravastatin or Atorvastatin Evaluation and Infection Therapy-Thrombolysis in Myocardial Infarction study; SEARCH, Study of the Effectiveness of Additional Reductions in Cholesterol and Homocysteine; TNT, Treating to New Targets study. SI conversion factors: To convert HDL and LDL cholesterol to mmol/L, multiply by 0.0259; triglycerides to mmol/L, multiply by 0.0113; glucose to mmol/L, multiply by 0.0555.

<sup>a</sup>Calculated as weight in kilograms divided by height in meters squared.

<sup>b</sup>Calculated as [LDL(intensive-dose group) - LDL(moderate-dose group)]/LDL(baseline).

<sup>c</sup>For baseline FPG level, there were 315 results from the PROVE IT-TIMI 22 participants, which were similarly distributed between treatment groups.

<sup>d</sup>Excluded patients with known diabetes, FPG level of 126 mg/dL or greater, or both at baseline.

<sup>e</sup>Nonfasting.

Unclear whether statin rx is associated with a tendency for an increase in DM or whether these individuals are just at higher risk.

# Rosuvastatin versus Atorvastatin: SATURN

- 1,385 CAD pts.; IVUS study; 2 yrs. rosuva or atorva
- Endpoints from prespecified  $\geq 40$  mm coronary segment:
  - #1- percent atheroma volume (PAV)
  - #2- total atheroma volume (TAV)
- #1 - numerically greater reduction in favor of rosuva, but did not reach statistical significance
- #2 - rosuva demonstrated a statistically significant reduction compared with atorvastatin

AstraZeneca announces top-line results from SATURN study [press release].

September 2, 2011

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# "Million Hearts" Plan

- Aim is to prevent one million heart attacks and strokes over the next five years
- Accomplish with clinical interventions and lifestyle changes
- Much of effort will occur outside the clinic and hospital
  - Walgreens- provide free BP testing in consultation with a pharmacist or a NP.
  - YMCA will expand the coverage of its diabetes-prevention programs.
  - CDC will step up efforts to educate healthcare professionals and the public about sodium intake.

Department of Health and Human Services [press release]. September 13, 2011.

# DHHS goals for the Million Hearts Initiative

Indicator	Baseline (%)	2017 goal (%)
Aspirin use for people at high risk	47	65
Blood-pressure control	46	65
Effective treatment of high cholesterol (LDL-C)	33	65
Smoking prevalence	19	17
Sodium intake (average)	3.5 g/d	20% reduction
Artificial trans-fat consumption (average)	1% of calories/day	50% reduction

# BD Response Being Constructed in our Book

- “Preventing one million heart attacks and strokes would be an admirable—and even spectacular—accomplishment. As specialists in preventing CVD, we applaud this campaign as a major step forward in combating the leading killer of Americans. But we also feel that it doesn’t go far enough. What about the three million Americans whose lives *won’t* be saved over these five years, even if the initiative’s best-case scenario is realized? Are they to be left in the tragic—and terrifying—position of our patient, Dead Man Walking, who believed that modern medicine had no cure to offer?”



# BD Response Being Constructed in our Book

- “We believe that something crucial is missing from the Million Hearts initiative: tailoring tests and treatments to each patient’s individual needs. The initiative is grounded on the premise that everybody with Framingham risk factors is alike, so the key to saving lives is elevating standard care to a higher level of consistency. In this era of shrinking healthcare dollars, there’s also a pragmatic purpose at work: to achieve the greatest good for the greatest number of patients, at the lowest cost, through simple interventions like a low-salt diet for those with high blood pressure or brief smoking cessation counseling for tobacco users.”

# BD Response Being Constructed in our Book

- “The inevitable outcome of this assembly-line approach is that many unsuspecting patients who are at extremely high risk for heart attacks and strokes will miss out on crucial medical care that could prevent these catastrophes, because they don’t have the targeted risk factors. The DHHS predicts that if the initiative succeeds in its push for greater standardization of cardiac care, and the best case scenario is achieved, these tactics would only prevent one in four heart attack fatalities. Would you bet *your* life on those odds?”



# NLA Recommendations

**Table 1** Summary recommendations for measurement of inflammatory markers and advanced lipoprotein/subfraction testing in clinical assessment and on-treatment management decisions

	Initial Clinical Assessment					
	CRP	Lp-PLA <sub>2</sub>	Apo B	LDL-P	Lp(a)	HDL or LDL Subfractions
Low risk (<5% 10-year CHD event risk)	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended
Intermediate risk (5-20% 10-year CHD event risk)	Recommended for routine measurement	Consider for selected patients	Reasonable for many patients	Reasonable for many patients	Consider for selected patients	Not recommended
CHD or CHD Equivalent	Consider for selected patients	Consider for selected patients	Consider for selected patients	Consider for selected patients	Consider for selected patients	Not recommended
Family History	Reasonable for many patients	Consider for selected patients	Reasonable for many patients	Reasonable for many patients	Reasonable for many patients	Not recommended
Recurrent Events	Reasonable for many patients	Consider for selected patients	Reasonable for many patients	Reasonable for many patients	Reasonable for many patients	Not recommended

	On-Treatment Management Decisions					
	CRP	Lp-PLA <sub>2</sub>	Apo B	LDL-P	Lp(a)	HDL or LDL Subfractions
Low risk (<5% 10-year CHD event risk)	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended
Intermediate risk (5-20% 10-year CHD event risk)	Reasonable for many patients	Not recommended	Reasonable for many patients	Reasonable for many patients	Not recommended	Not recommended
CHD or CHD Equivalent	Reasonable for many patients	Not recommended	Reasonable for many patients	Reasonable for many patients	Consider for selected patients	Not recommended
Family History	Consider for selected patients	Not recommended	Consider for selected patients	Consider for selected patients	Consider for selected patients	Not recommended
Recurrent Events	Reasonable for	Not recommended	Reasonable for	Reasonable for	Consider for	Not recommended

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# Cases:

none submitted

# Bale/Doneen: Upcoming meetings

- BHL 5 hr Saturday Program
  - Oct. 15: Ritz Carlton, Dana Point, CA
- Bradley Bale CV Symposium CME
  - Oct. 28: Via Christi Hospital, Wichita, KS
- Bale/Doneen CME Preceptorship Program
  - Nov 4-5<sup>th</sup>: JW Marriott, New Orleans, LA
- BHL 5 hr Saturday Program
  - Nov. 19: Atlanta Marriott, Atlanta, GA
- Master Series Webinar – 45 mins.
  - Feb. 21, 2012: webinar on the oral-systemic link
- American Academy of Practice Administration-Key Note 3 hr.
  - March 8, 2013: Las Vegas, NV

# Open Discussion