

Waist Management: The Benefits of Dairy

Southern Dairy Conference

Cheryl Hayn, MS, RD—SUDIA
February 9, 2004

©Copyright National Dairy Council 2002. All rights reserved. Quotation, reproduction or transmission by any means is prohibited without the written permission of National Dairy Council.



NATIONAL DAIRY COUNCIL®

America's Battle with the Bulge



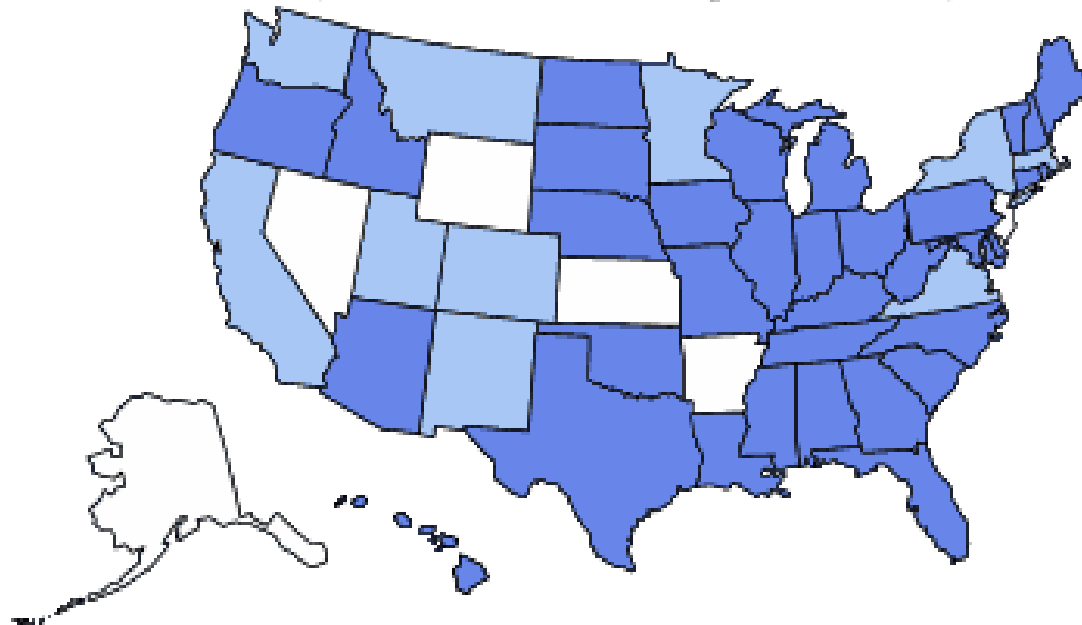
- Six in 10 adults overweight or obese
- Prevalence of obesity up 10 percent in last decade



Obesity Trends* Among U.S. Adults

BRFSS, 1990

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



No Data <10% 10%-14% 15-19% $\geq 20\%$



Source: Mokdad AH.



NATIONAL DAIRY COUNCIL®

Paying a Heavy Price

- Myriad health problems – heart disease, stroke, high blood pressure and diabetes
- Being overweight and physically inactive account for more than 300,000 premature deaths annually
- Healthcare costs are \$117 billion



Overweight Kids on the Rise

- 15% of children and adolescents are overweight
- Past two decades: Incidence doubled among children and tripled among adolescents
- Rising risks for health problems today and tomorrow
 - *Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity, 2001*



How does dairy fit?



In the beginning...A Serendipitous Discovery



- African American men
- Two cups yogurt/day (+600 mg calcium)
- Body fat ↓ 11 pounds

-Zemel, et al., FASEB J, 14:1132, 2000



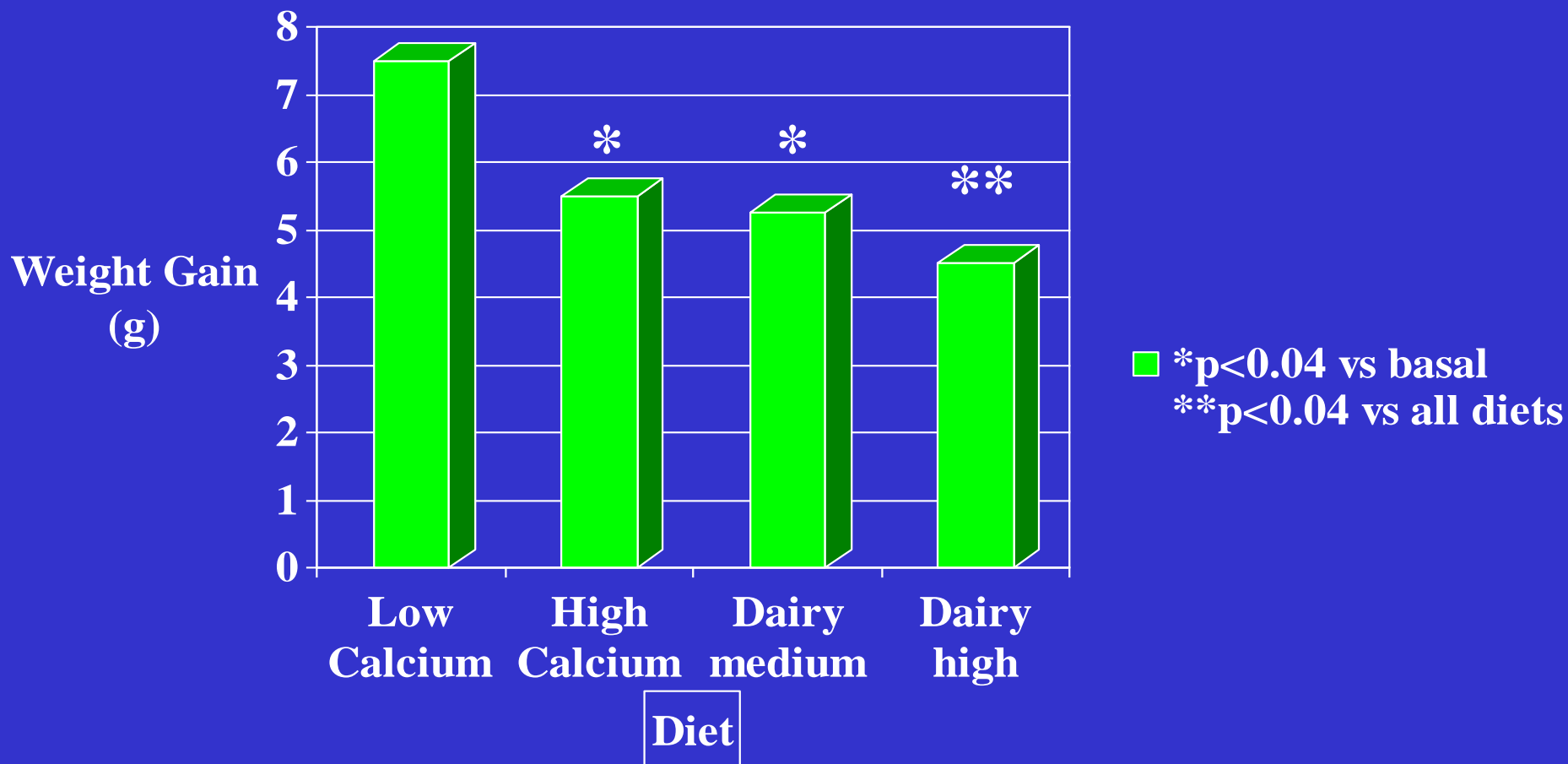
NATIONAL DAIRY COUNCIL®

Putting the Pieces Together

- Is there a link in humans?
- Is there a plausible mechanism?
- Are there clinical studies supporting it?



Animal studies: High Dairy Diet = Less Weight Gain



- Zemel, et al., *FASEB J*, 14:1132, 2000



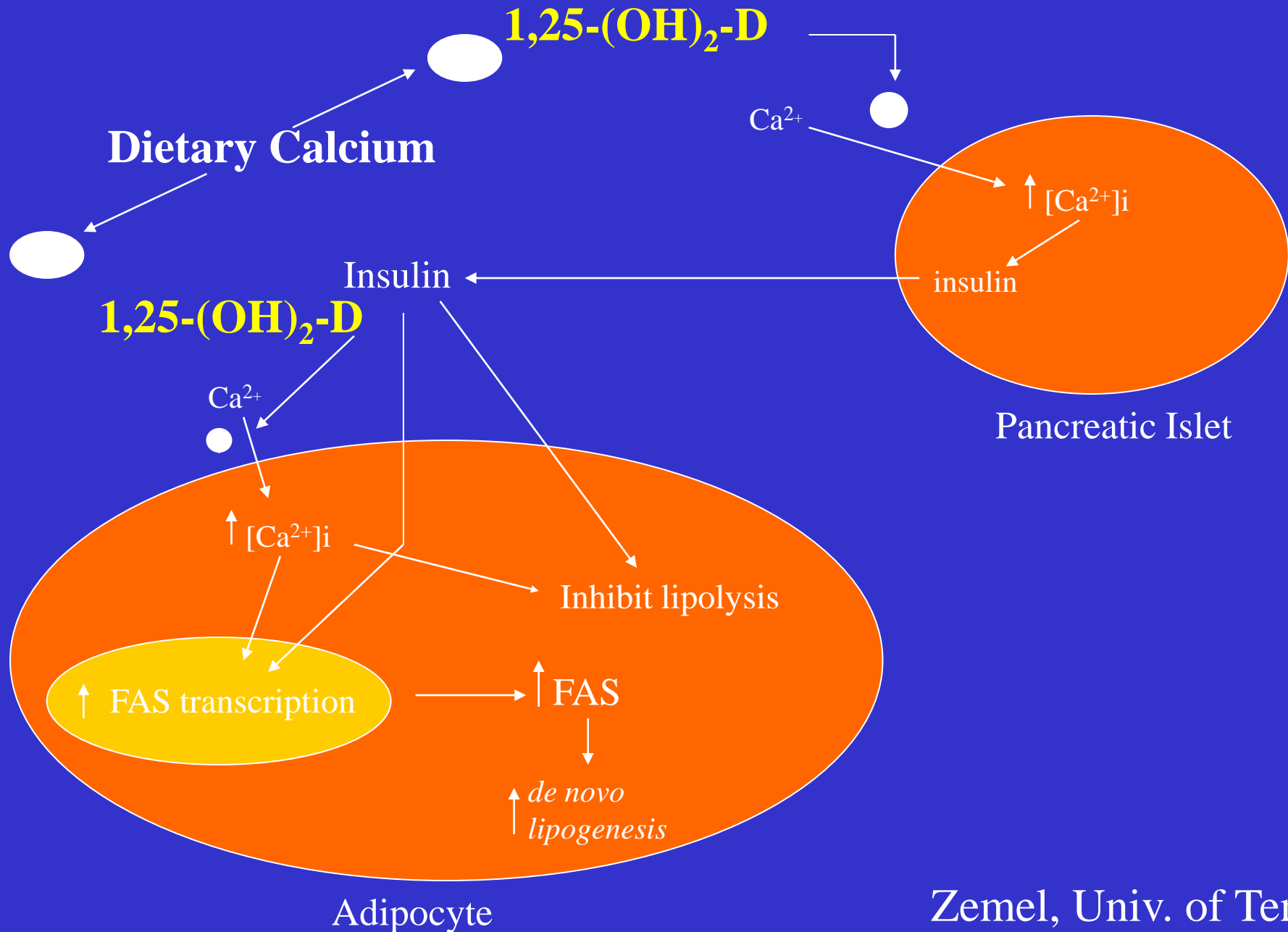
NATIONAL DAIRY COUNCIL®

Storage of Fat is Changed

- All the calcium diets significantly decreased fat storage
- Low Calcium diet suppressed body fat breakdown by 67%
- Higher Calcium diets stimulated body fat breakdown 3 – 5-fold
 - Greater effects from Medium Dairy and High Dairy diets than the High Calcium diet with supplements
 - Zemel, et al., *FASEB J*, 14:1132, 2000



Mechanism of Calcium Inhibition of Adiposity



More animal studies...

<u>Diet</u>	<u>Change in Body Weight</u>	<u>Change in Body Fat</u>
Low Calcium	↓ 11%	↓ 8%
High Calcium	↓ 19%	↓ 42%
Medium Dairy	↓ 25%	↓ 60%
High Dairy	↓ 29%	↓ 69%

- Shi, et al., *FASEB J*, 15:291, 2001



Human Retrospective Study

- NHANES III data
- **Diets with high** calcium/Milk Group food intake = less body fat
- Women benefit most
- 3½ daily servings Milk Group foods = lowest obesity risk

- Zemel, et al., *FASEB J*, 14:1132, 2000



NATIONAL DAIRY COUNCIL®

Promising Results in Women

- Calcium intake and changes in body composition examined
 - High calcium intakes = less weight gain
 - Greatest benefit from Milk Group foods

- Lin, et al., *J Am Coll Nutr*, 19:754, 2000

- Calcium intake and body weight explored

- Low calcium intake = increase in weight
- 1,000 mg calcium/day difference = 18 lb. lower weight

- Davies, et al., *J Clin Endocrinol Metab*, 85:4635, 2000



Milk Group Foods vs. Calcium Supplements?

- Research suggests greater effect from Milk Group foods versus calcium alone
- Calcium does not act alone
- Adding dairy doubles the effect on fat metabolism, body fat and weight
 - Zemel, *J Amer Coll Nutr*, 21: 146S-151S, 2002



Dairy Nutrients and Healthy Weight in Kids



- Higher intakes of calcium/Milk Group foods associated with lower body fat
- Milk Group foods were major source of calcium
 - Carruth and Skinner, *Int J Obes*, 25:559, 2001
- Calcium associated with body fat
- Children who drank soda had lower calcium intakes
- Milk accounted for 50 percent of the study participants' calcium intake

- Skinner JD, et al. *Journal of the American Dietetic Association*. 2003; 103(12):1626-1631



Research Summary

■ It's good news!

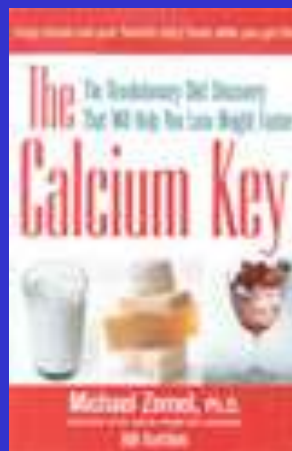
- Dairy foods *help* weight loss in adults as a part of a reduced-calorie diet
- Greatest weight-loss benefit is achieved by dairy foods and not by calcium supplements/fortified foods
- High dairy diets in children may help *maintain* a healthy weight



How do we share the message?

■ Healthy Weight with Dairy

- www.healthyweightwithdairy.com
- “Calcium Weighs In”
- “New Year, New You”
- The Calcium Key



Healthy Weight with Dairy

	October				November				December					January			
	29	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
Parenting																	
Nick Jr.									Dec/Jan								
Parenting									Dec/Jan								
Parents																	
Women's Service																	
Better Homes & Gardens																	
Family Circle																	
Good Housekeeping																	
Ladies Home Journal																	
Entertainment																	
People																	
Soap Opera Digest																	
US Weekly																	
TV Guide																	
Health and Fitness																	
Fitness																	
Shape																	
Health																	
Heart & Soul																	
Prevention																	
Reader's Digest																	
Beauty																	
Cosmopolitan																	
Essence																	
Glamour																	
News/Newspapers																	
Time																	
Newsweek																	
USA Today																	
Los Angeles Times																	
Washington Post																	
New York Times																	
Chicago Tribune																	
Philadelphia Inquirer																	
San Francisco Chronicle																	
Dallas Morning News																	

Weight Loss Value: \$4.9MM

Who hears the message?

■ Moms

- Media
- Internet
- Doctors and Dietitians
- Events



AMERICAN DIETETIC ASSOCIATION



NATIONAL DAIRY COUNCIL®

Who hears the message?

■ Minorities

- National Medical Association



■ Schools

- Action for Healthy Kids



NATIONAL DAIRY COUNCIL®

What will they remember?

3-A-Day of Dairy

means stronger
bones

and

better bodies



NATIONAL DAIRY COUNCIL®