Diabetes Management 2011

Satellite Conference and Live Webcast
Thursday, November 9, 2011
2:00 – 4:00 p.m. Central Time

Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

Faculty

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Projected Growth of Diabetes in the United States

- **Number of Americans with Diabetes in 2007: 18.5 million**
- **Projected number of Americans with Diabetes in 2025/50: 50 million**
- **Projected increase of Diabetes from 2005-2025 by gender**
  - Women: 2 in 5
  - Men: 1 in 3

Projected Growth of Diabetes in the United States

- **Projected increase of Diabetes from 2005-2025/50 by race/ethnicity**
  - Hispanics – 481% (projected population growth: 188%)
  - Blacks – 208% (projected population growth: 71%
  - Whites – 113% (projected population growth: 7%)

– *Diabetes Care,* February 2008
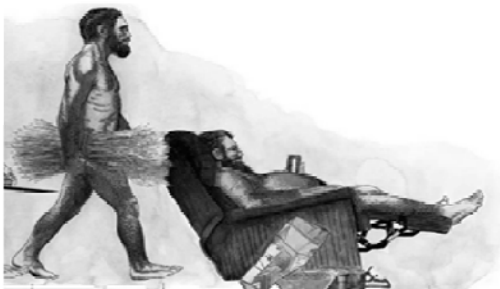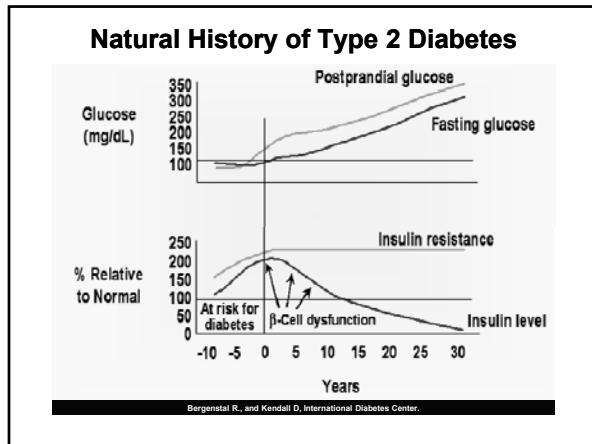
Modern Life Has Both Conveniences and Costs

Illustration from: Lambert C., Bing C., The Way We Eat Now. Harvard Magazine. May-June, 2004;50.

What Are the Diseases Called Diabetes?

- **IGT, IFG, pre-diabetes**
- **Type 1 DM**
- **Type 2 DM**
- **Gestational DM**
- **Secondary Diabetes**
- **Type 1 ½**
- **Type 3**

Natural History of Type 2 Diabetes

Bergenstal R., and Kendall D, International Diabetes Center.

The Pathogenesis of Type 2 Diabetes

- An imbalance of beta-cell workload and beta-cell response

The Pathogenesis of Type 2 Diabetes

- Increased beta-cell workload
  - ↑ Insulin resistance
    - Obesity
  - ↑ Food intake
  - ↑ Gastric emptying
    - ↑ Rate of nutrient absorption

The Pathogenesis of Type 2 Diabetes

  - ↑ Glucagon secretion
    - ↑ Hepatic glucose output

The Pathogenesis of Type 2 Diabetes

- Decreased beta-cell response
  - ↓ Insulin secretion in response to elevated glucose
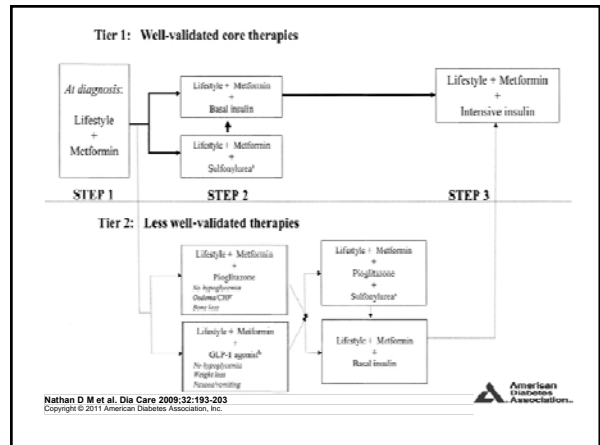 - ↓ First-phase insulin response

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The ABC's of Diabetes Management

- A → A_1C
- B → blood pressure
- C → cholesterol
- D → diet
- E → exercise

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www.glasbergen.com

"The high-carb diet I put you on 20 years ago gave you diabetes, high blood pressure, and heart disease. Oops."

Unfortunately, Martha's idea of the Diabetic 'Exchange' system was to exchange an empty plate for a full one.

© 2004 Diabetes Health

Algorithm for the Metabolic Management of Type 2 Diabetes

- Reinforce lifestyle interventions at every visit and check A1C every 3 months until A1C is <7% and then at least every 6 months

Nathan D M et al. Dia Care 2009;32:193-203
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Major Classes of Medications

Thiazolidinediones, Biguanides	1. Sensitize the body to insulin and/or control hepatic glucose production
Sulfonylureas Meglitinides	2. Stimulate the pancreas to make more insulin
Alpha-glucosidase inhibitors	3. Slow the absorption of starches
Insulin	4. DUH!
BABR's	5. Unknown mechanism of action
Incretins	6. GLP-1's, Amylin Analogs