

Diabetes Care in the U.S. A 2009 vision

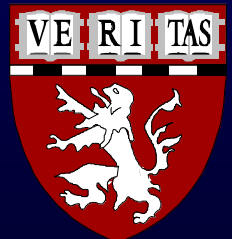
Enrique Caballero MD

Director, Latino Diabetes Initiative

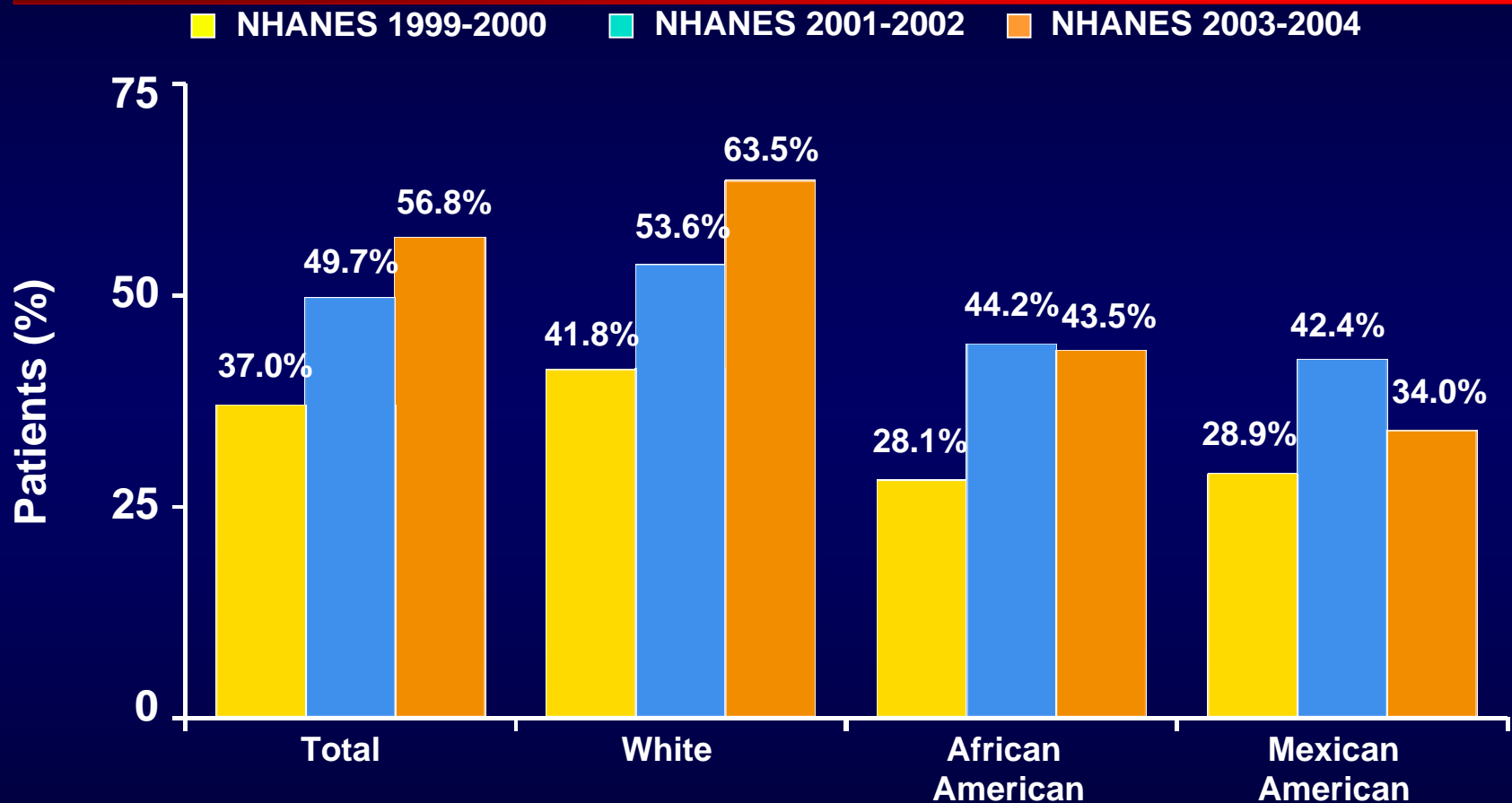
Director, Medical Affairs, Professional Education

Joslin Diabetes Center

Harvard Medical School



Glycemic Control Has Improved – But Many Patients Still Not at Goal A1C <7%



N=1334

NHANES=National Health and
Nutrition Examination Survey

Data from Ford E, et al. *Diabetes Care*. 2008;31(1):102-104.

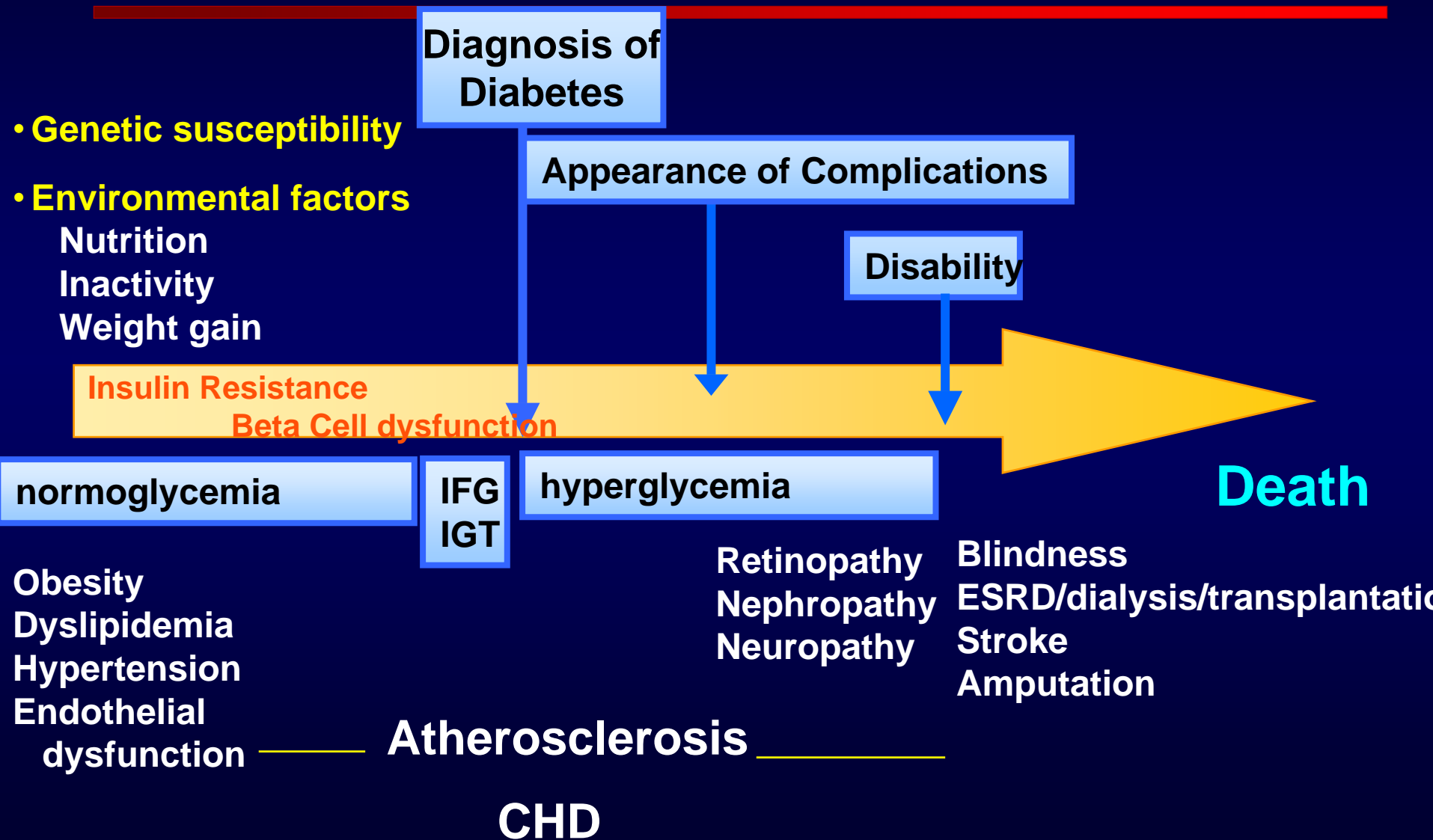
Why Can't We Get There Yet?

- Diabetes is a progressive and difficult to treat disease
- It is a very expensive disease
- Proper diabetes care requires effective and sustained education and a team approach
- Social and cultural challenges
- Failure to implement timely and appropriate interventions

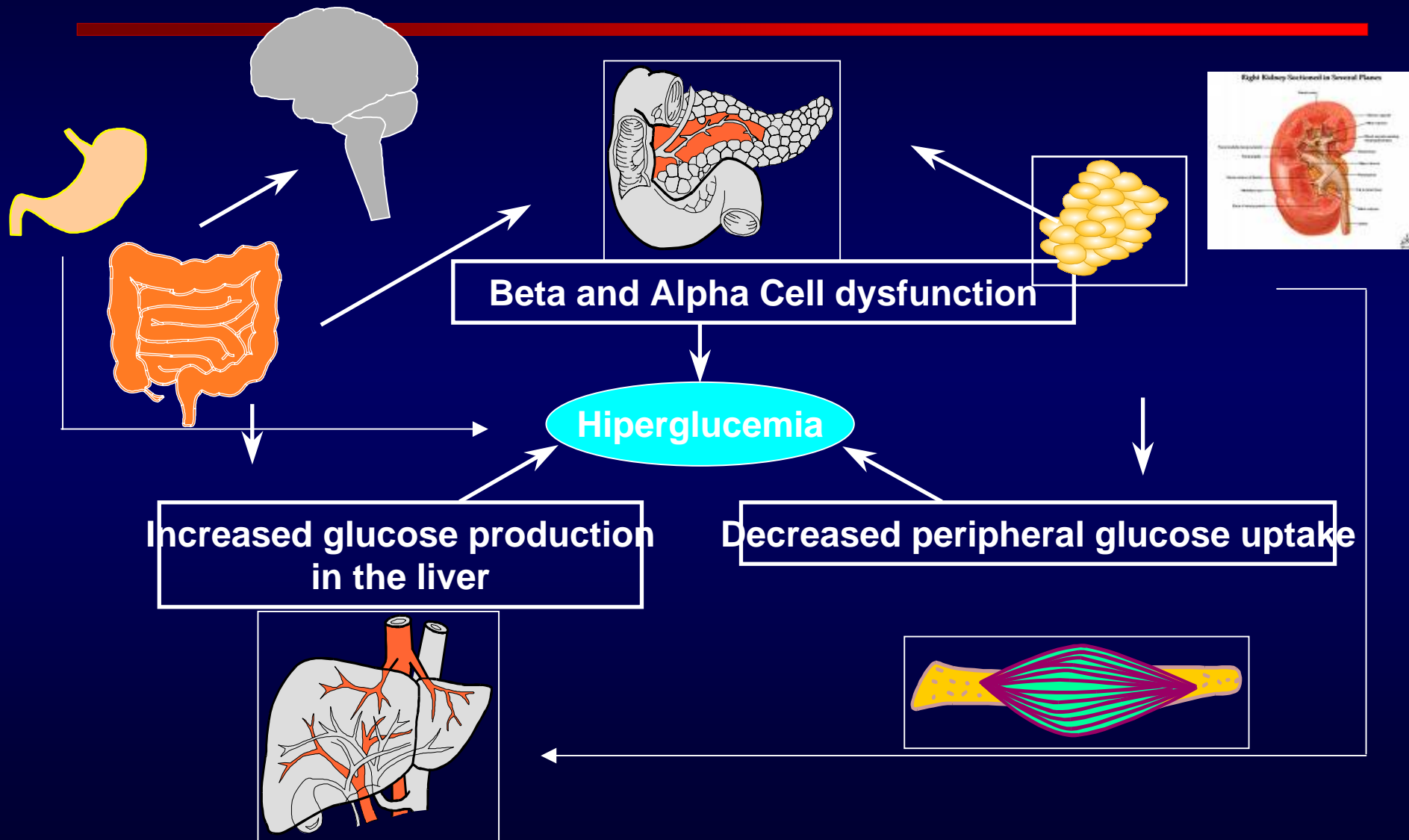
Why Can't We Get There Yet?

- Low adherence to treatment plans
- Confusion in who, when and how to treat diabetes
- Unmet needs in treatment approaches
- Difficult climate to implement therapies due to pressure of media and possible legal problems
- Lack of reimbursement for preventive strategies

Natural History of Type 2 diabetes



Current view of the Pathophysiology of Type 2 Diabetes

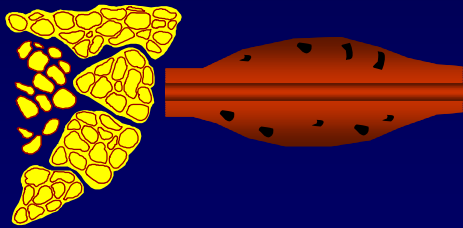


Pharmacologic Approaches in DM2

- Improve insulin resistance
 - Biguanides
 - Thiazolidinediones
- Enhance insulin secretion/ β -cell function
 - Sulfonylureas
 - Short-acting secretagogues
- Reduce glucose absorption
 - Alpha-glucosidase inhibitors
- Incretin-based therapies
 - Incretin mimetics: GLP-1 analogs (exenatide, liraglutide, taspoglutide)
 - Incretin enhancers: DPP-IV inhibitors (sitagliptin, vildagliptin, saxagliptin, alogliptin and others in development)
- Insulin replacement
 - Basal insulins
 - Preprandial insulins
- Bile-acid sequestrants
 - Colesevalam

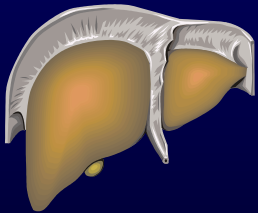
Medications to Treat Type 2 Diabetes

Drugs that enhance insulin action in peripheral tissues



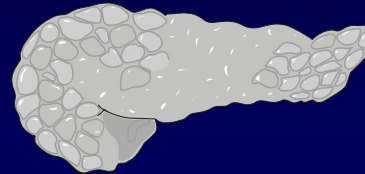
Thiazolidinediones

Drugs that suppress endogenous glucose production



Metformin

Drugs that enhance endogenous insulin secretion



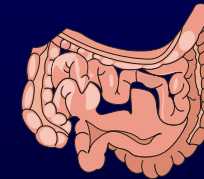
Sulfonylureas

Repaglinide, Nateglinide

Exenatide, Liraglutide, Taspoglutide

DPP-IV inhibitors

Drugs that delay the absorption of carbohydrate from the GI Tract



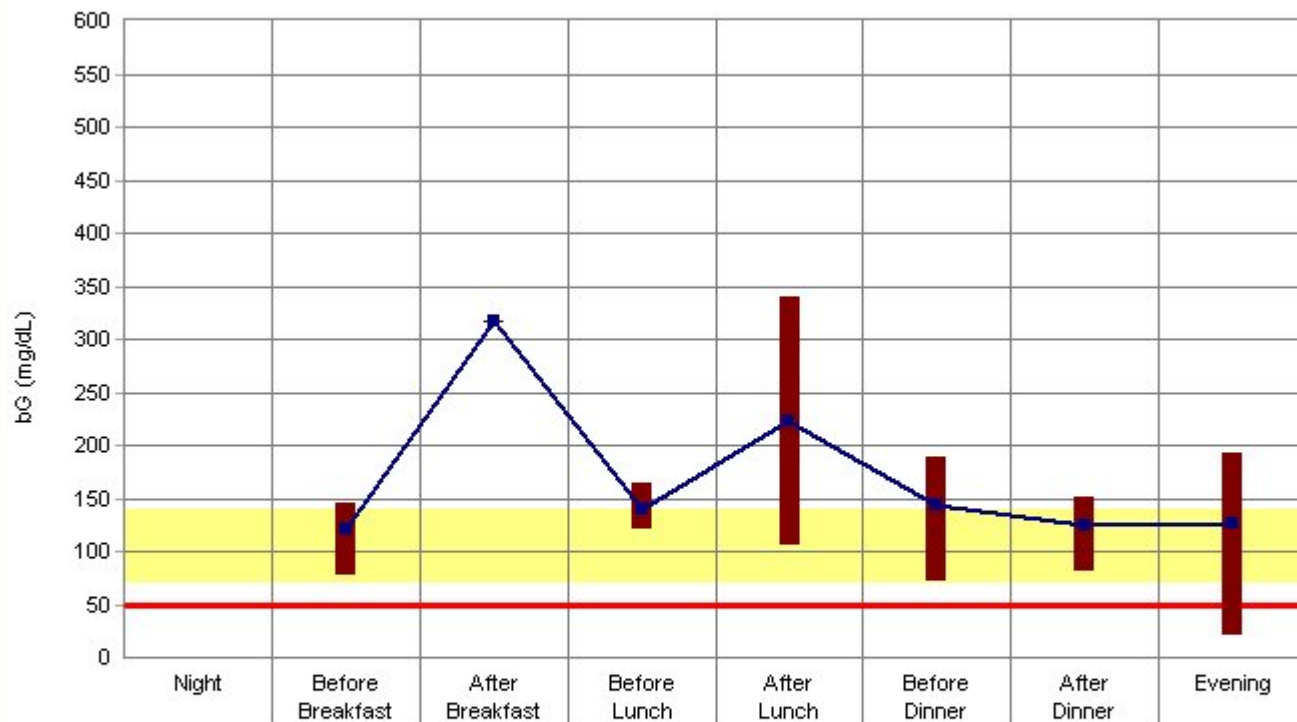
Alpha glucosidase inhibitors

Colesevalam



Downloadable Glucometers

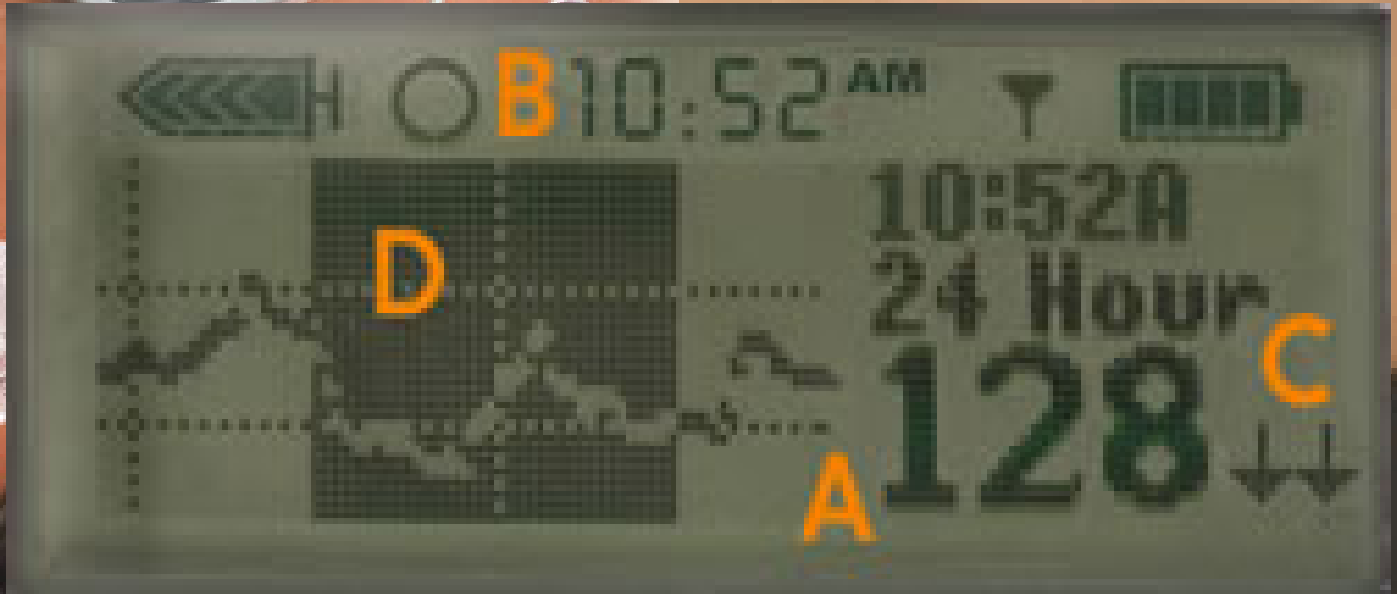
Average Day Report: 4/27/2005 - 5/10/2005: All Days



# of Tests:	0	13	1	12	2	10	3	15
Avg. bG:	0.0	121.8	317.0	140.8	223.5	145.1	125.0	126.7
Range								
Above Target (> 140 mg/dL):		28	50.0%	Highest bG (mg/dL):	341	Total # of Tests:	56	
Within Target (70 - 140 mg/dL):	24	42.9%	Lowest bG (mg/dL):	21	Avg. # Tests per Day:	4.0		
Below Target (50 - 69 mg/dL):	3	5.4%	Average bG (mg/dL):	138.7	Standard Deviation:	50.6		
Hypo (< 50 mg/dL):	1	1.8%	Number of HIs:	0				
			Number of LOs:	0				



Insulin Pumps



Continuous Glucose Monitors

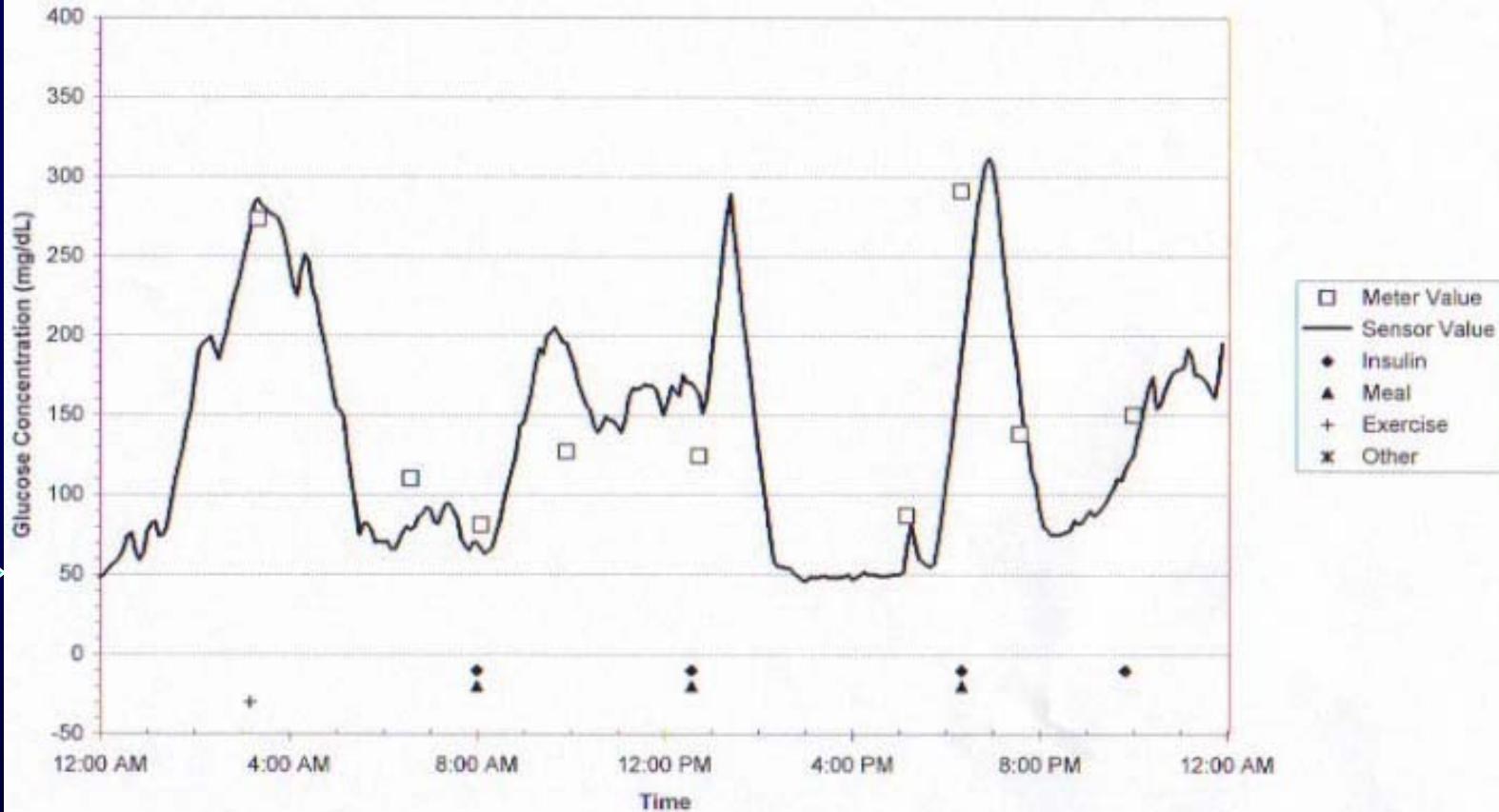


Continuous Sensor Data

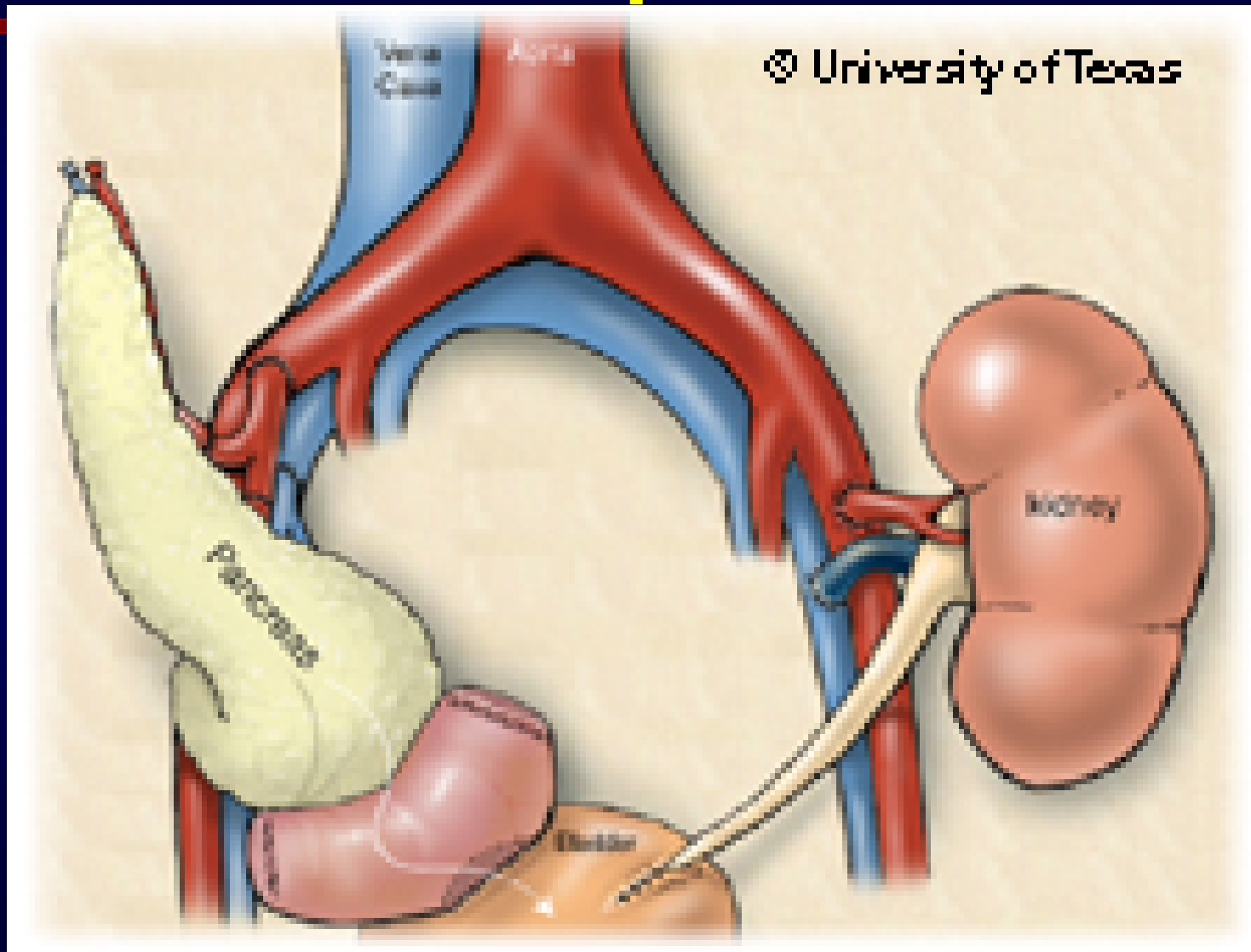
Patient: P000-0004@03-30-2001@09-51-56

Glucose Sensor Profile: 03-29-01

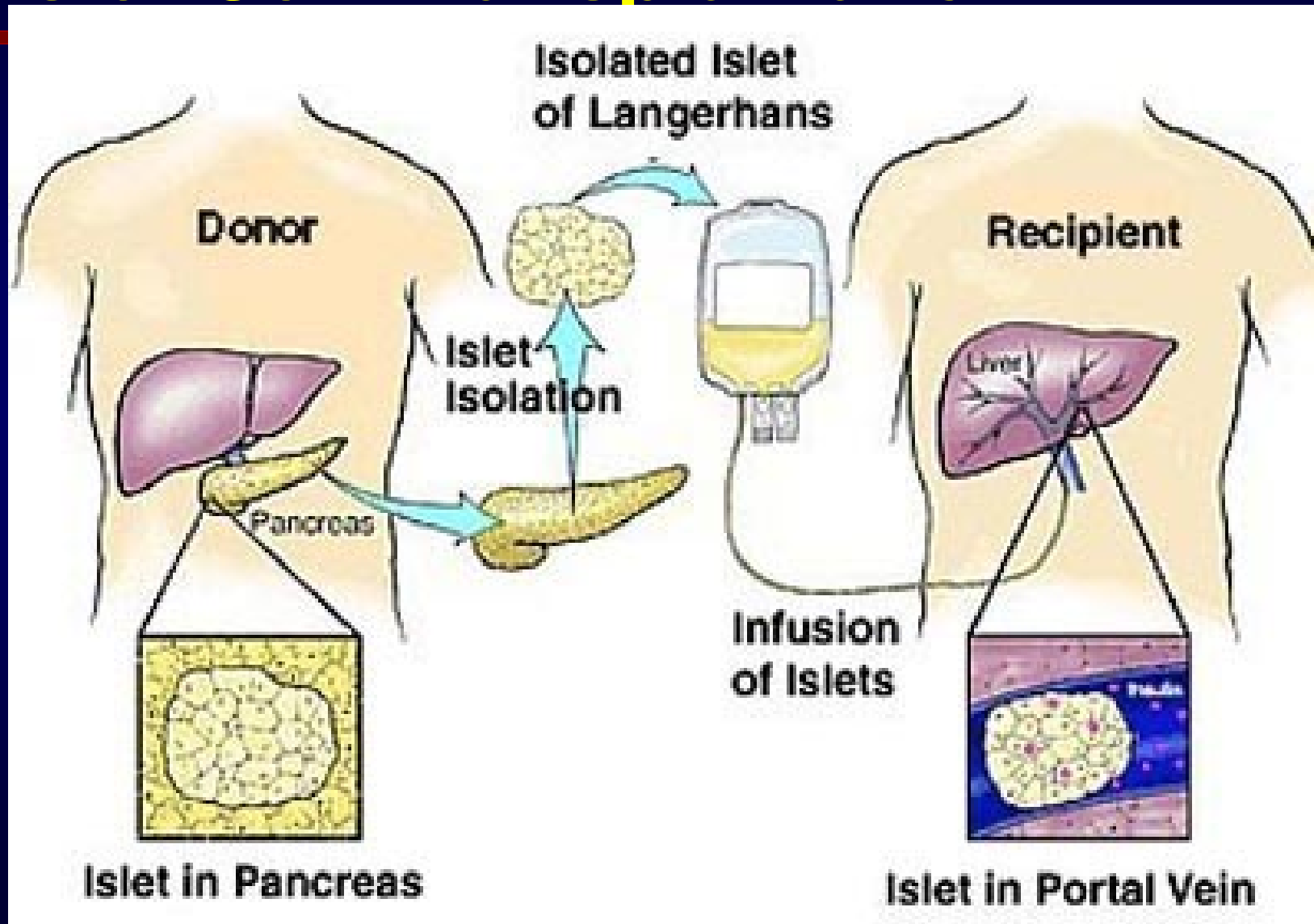
* This day does not satisfy the criteria for optimal accuracy as indicated by the shaded entries in the summary table. Please use your clinical judgement in evaluating the graph.



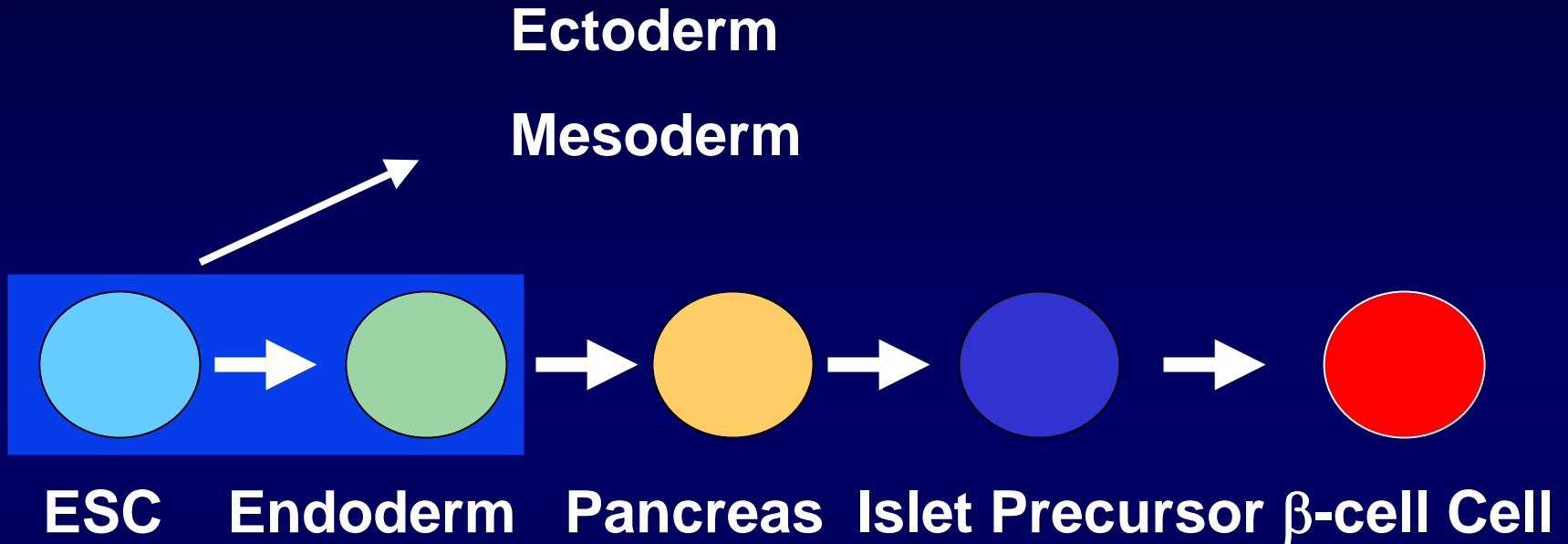
Pancreas Transplantation



Islet Cell Transplantation



Embryonic Stem Cells (ESC)



We need to understand mechanisms

The Basic Triad in Diabetes Care

The Patient:

Medical, Socio-economic,
Cultural factors

The Health Care Provider:

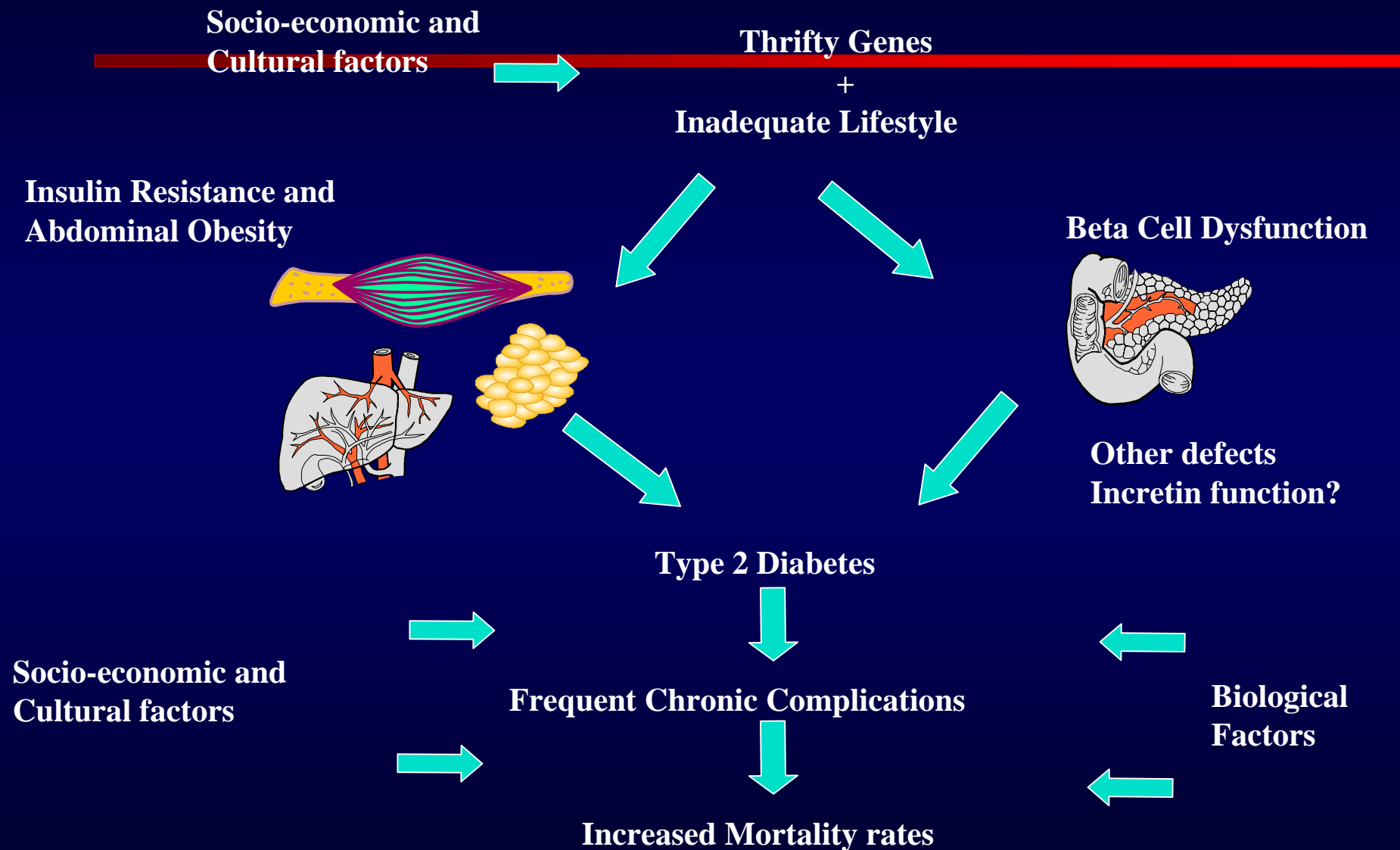
Suboptimal implementation of
basic diabetes care
Lack of cultural competence

The Health Care System:

Insufficient:

Time and support with patients
Support to Education and Prevention
Culturally Oriented Programs
Professional education
Cultural diversity
Health care access

Genes, Environment and Social/Cultural Factors in the development and course of Diabetes in Minorities

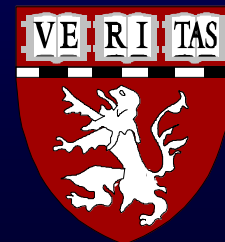


The Latino Diabetes Initiative

The overall goal of the Initiative is to improve the lives of Latinos affected by diabetes or at risk for the disease through culturally oriented patient care, education and research



www.joslin.org/latino



The Latino Diabetes Initiative

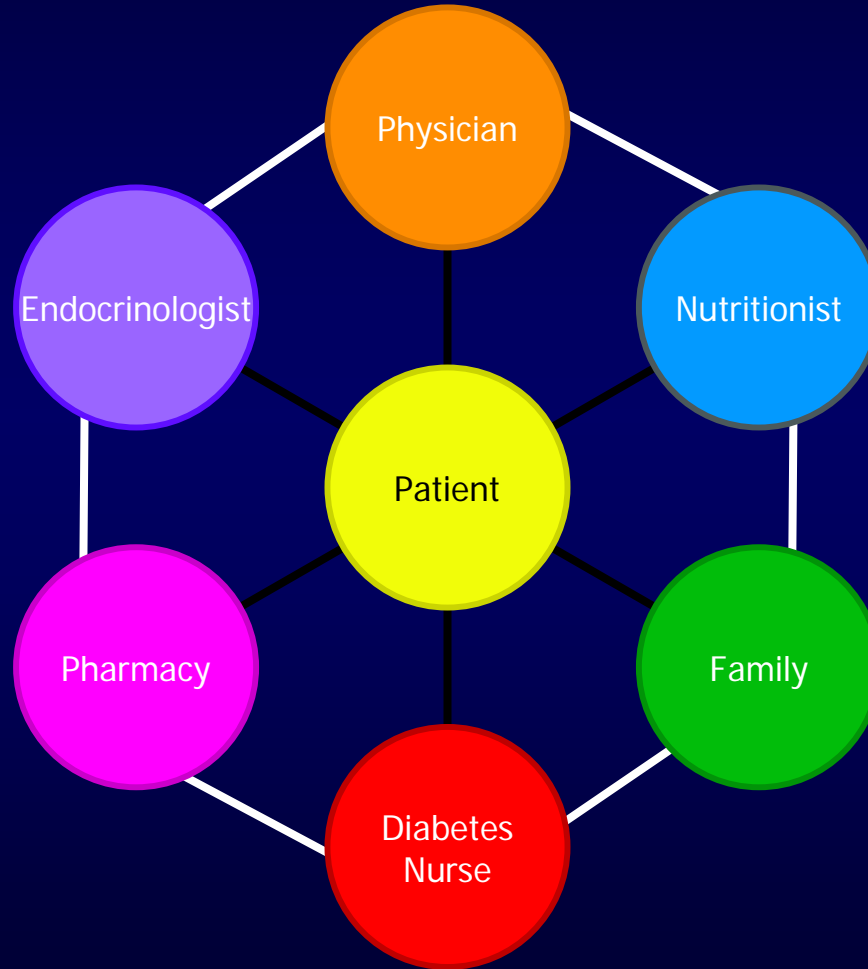
Patient
Care and
Education

Research

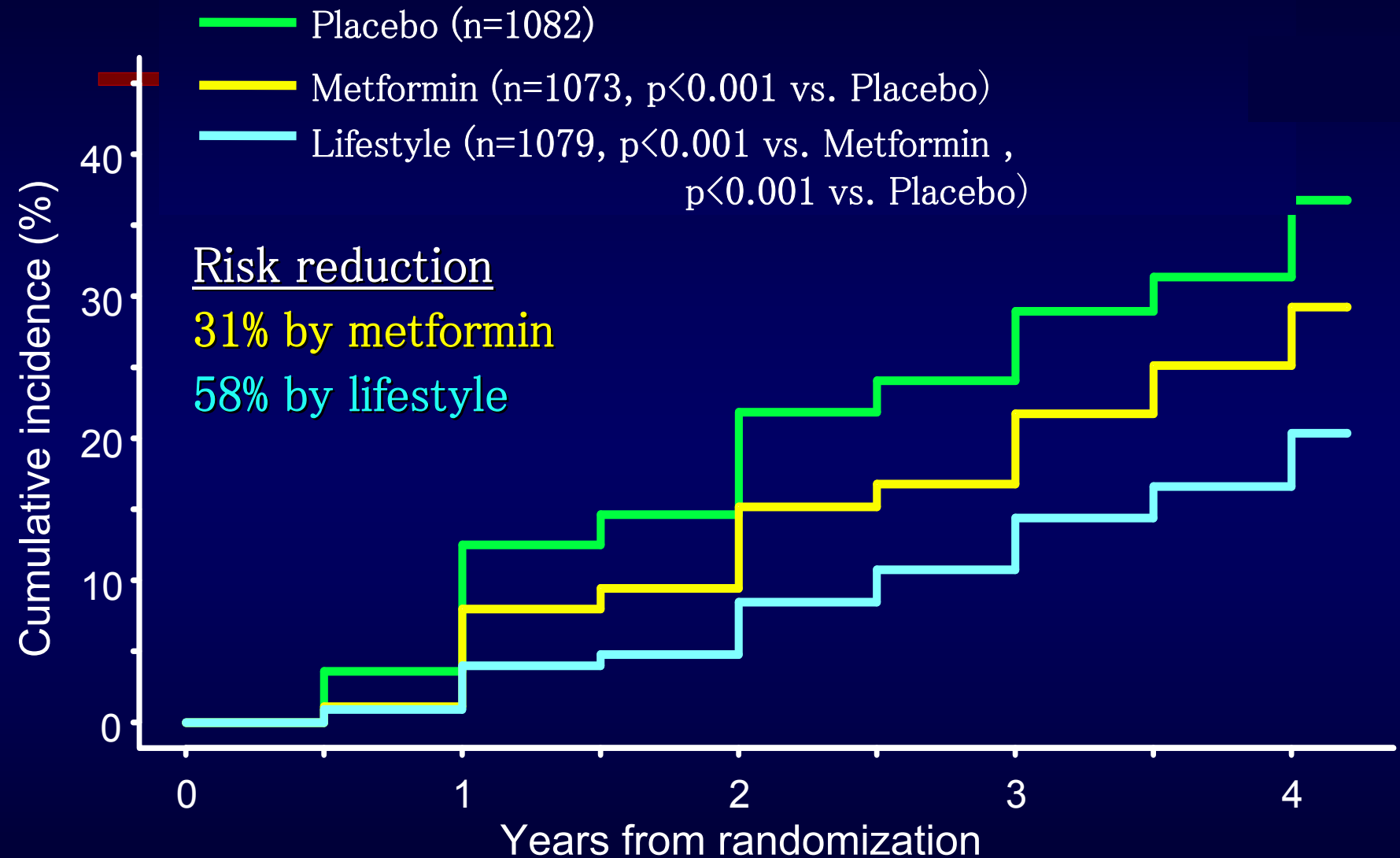
Community
Outreach

Professional
Education

The Diabetes Care Team



Incidence of Diabetes in the DPP

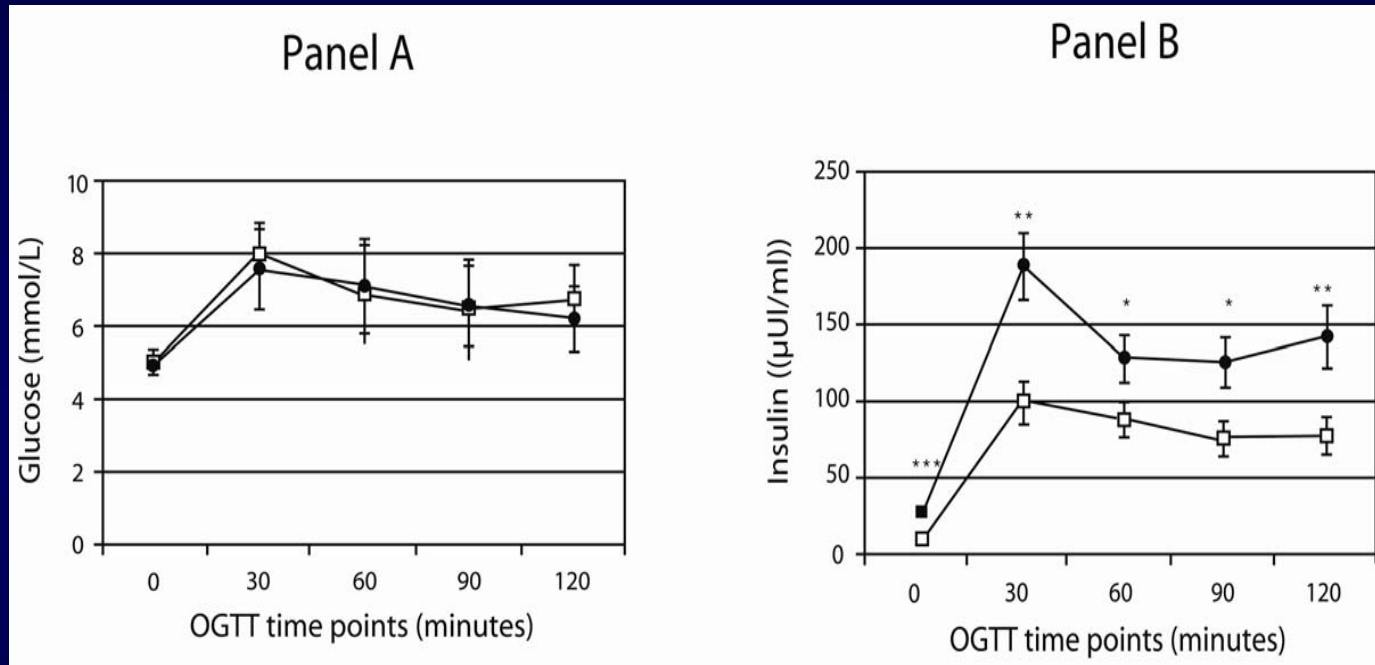


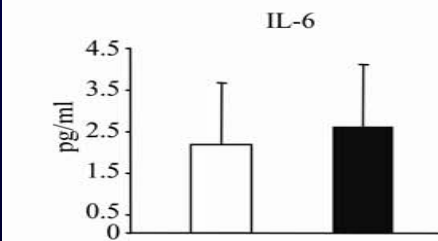
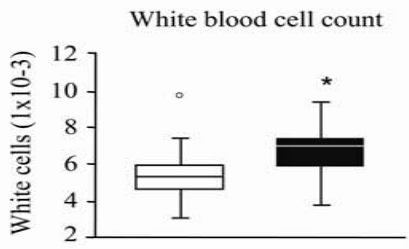
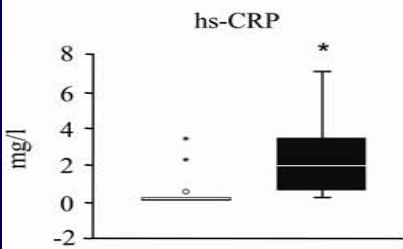
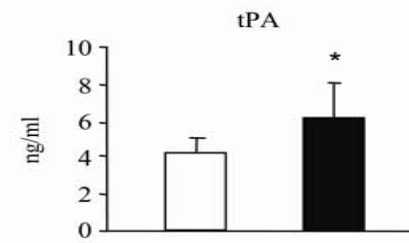
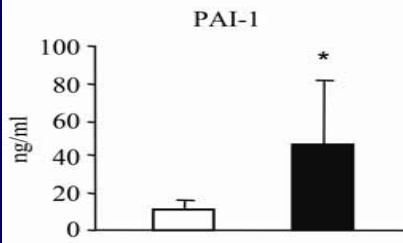
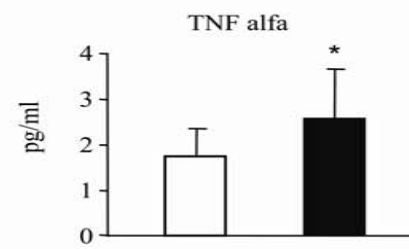
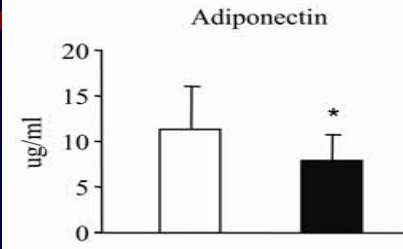
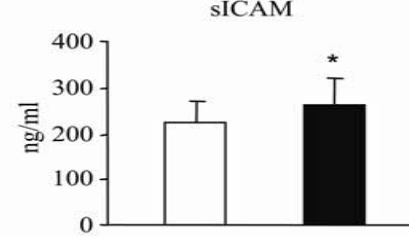
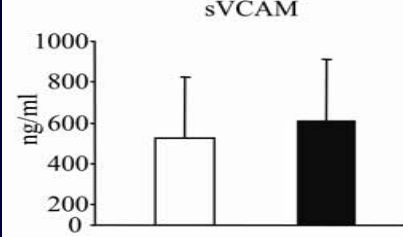
Main Characteristics in both Groups

Variable	Controls (n=17)	At risk (n=21)	P value
Age	14.18±2.3	13.33±2.7	0.31
Waist/hip ratio	0.79±0.08	0.88±0.11	0.003
Total % fat	24±6	42±9	<0.0001
Trunk fat	19±5	42±9	<0.0001
Systolic BP	101.5±7	116.6±12	<0.0001
Diastolic BP	68.6±6	70.9±6	0.23
Total cholesterol	142.06	149.76	0.318
Triglycerides	58.82	108.29	0.004
HDL	42.00	37.52	0.162
LDL	89.24	93.50	0.484

Demographic and clinical characteristics between both groups, comparisons were Done with t test in case of continuous variables and χ^2 in case of dichotomous variables

Glucose and Insulin curves during OGTT





□ control group
■ overweight group

THANK YOU