

Primary Prevention of Type 2 Diabetes

David C. Ziemer, MD, MPH

Division of Endocrinology & Metabolism

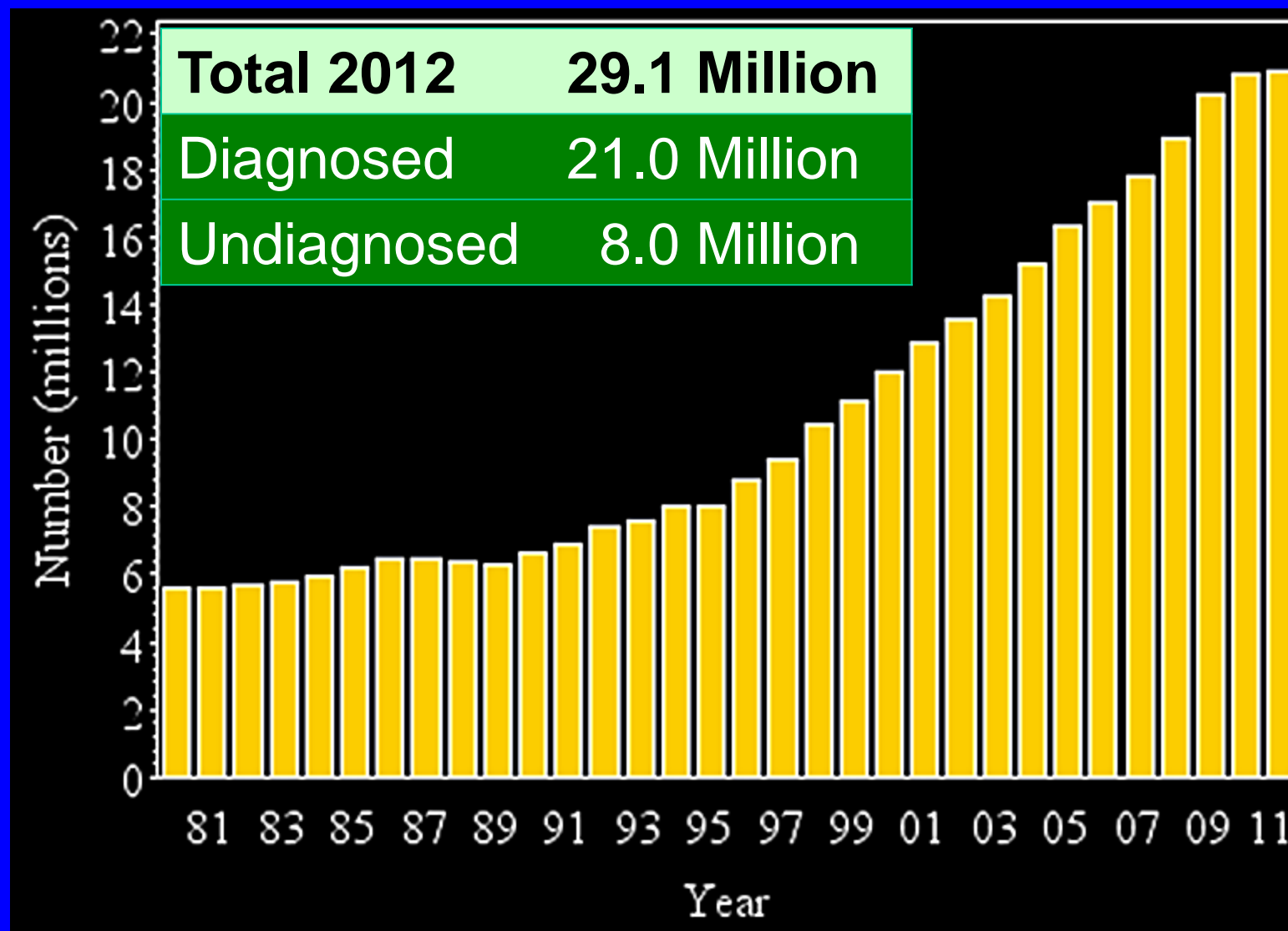
Emory University School of Medicine

News Flash: “Diabetes - Startling Growth!”

“There are entirely too many diabetic patients in this country. Statistics for the last thirty years show so great an increase in the number that, unless this were in part explained by a better recognition of the disease, the outlook for the future will be startling.”

Elliot P. Joslin, JAMA 76:76-79, 1921

News Flash: "Diabetes - Startling Growth!"

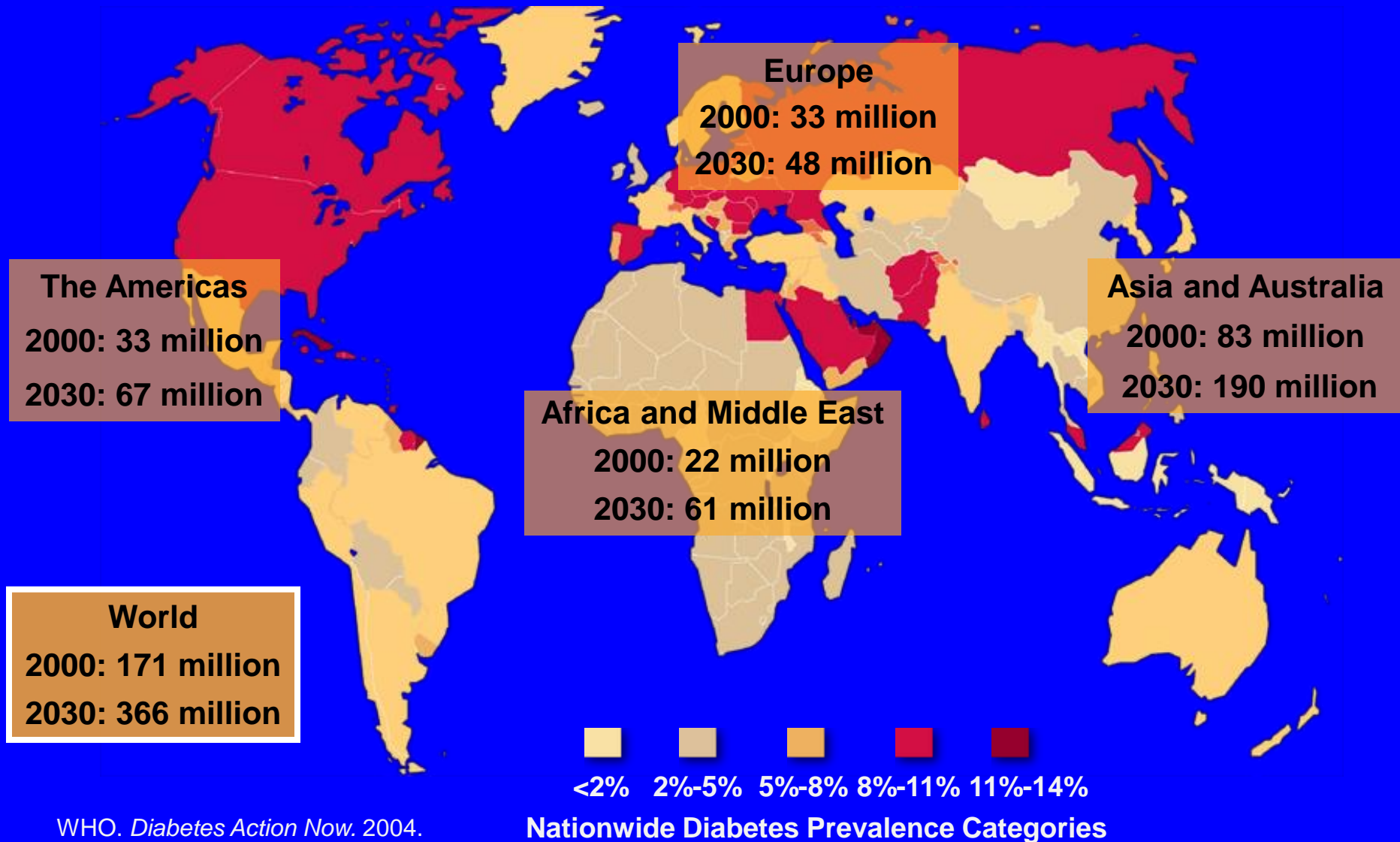


News Flash: “Personal Risk of Diabetes For Americans Born in 2000”

Nearly 40% will develop diabetes

For African or Latino Americans,
Half will develop diabetes
in their lifetime

Global Prevalence of Diabetes Projected to More Than Double by 2030



Definition of Diabetes and Increased Risk for Diabetes

<u>NORMAL</u>	<u>IFG or IGT</u> ("pre-diabetes")	<u>DIABETES</u>
FPG < 100 mg/dl	IFG FPG: 100 – 125 mg/dl	FPG ≥ 126 mg/dl
2-h PG < 140 mg/dl	IGT 2-h PG: 140 - 199 mg/dl	2-h PG ≥ 200 mg Random PG ≥ 200 + symptoms
A1C* *Insensitive	5.7% to 6.4% [9-25%;25-50% 5yr risk]	≥ 6.5%

How does Diabetes develop?

- For Type 2 – 2 reasons

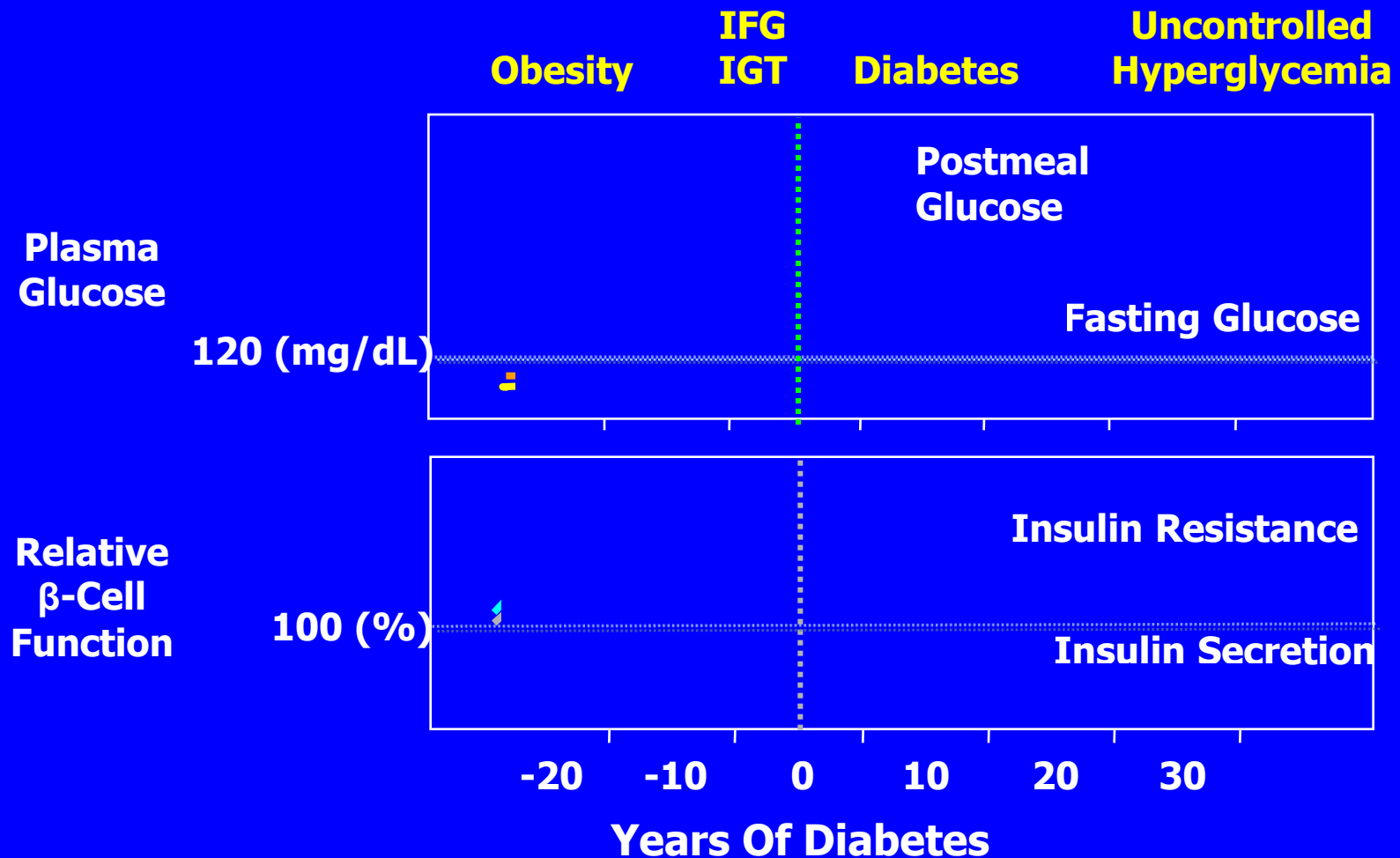
How does Diabetes develop?

- Body is not responding to insulin, "insulin resistance"
-

How does Diabetes develop?

- Body is not responding to insulin, "insulin resistance"
- Not enough insulin

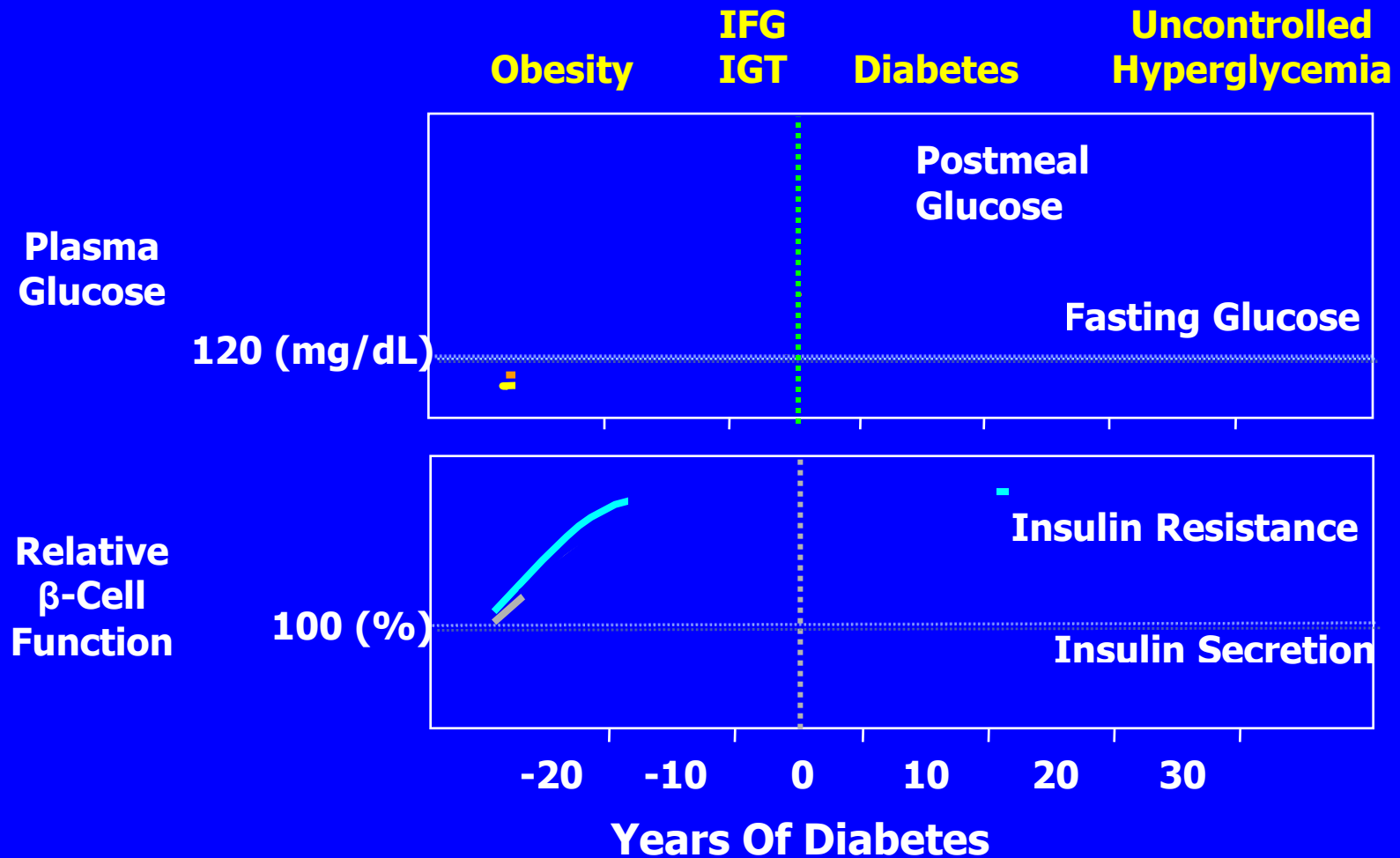
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

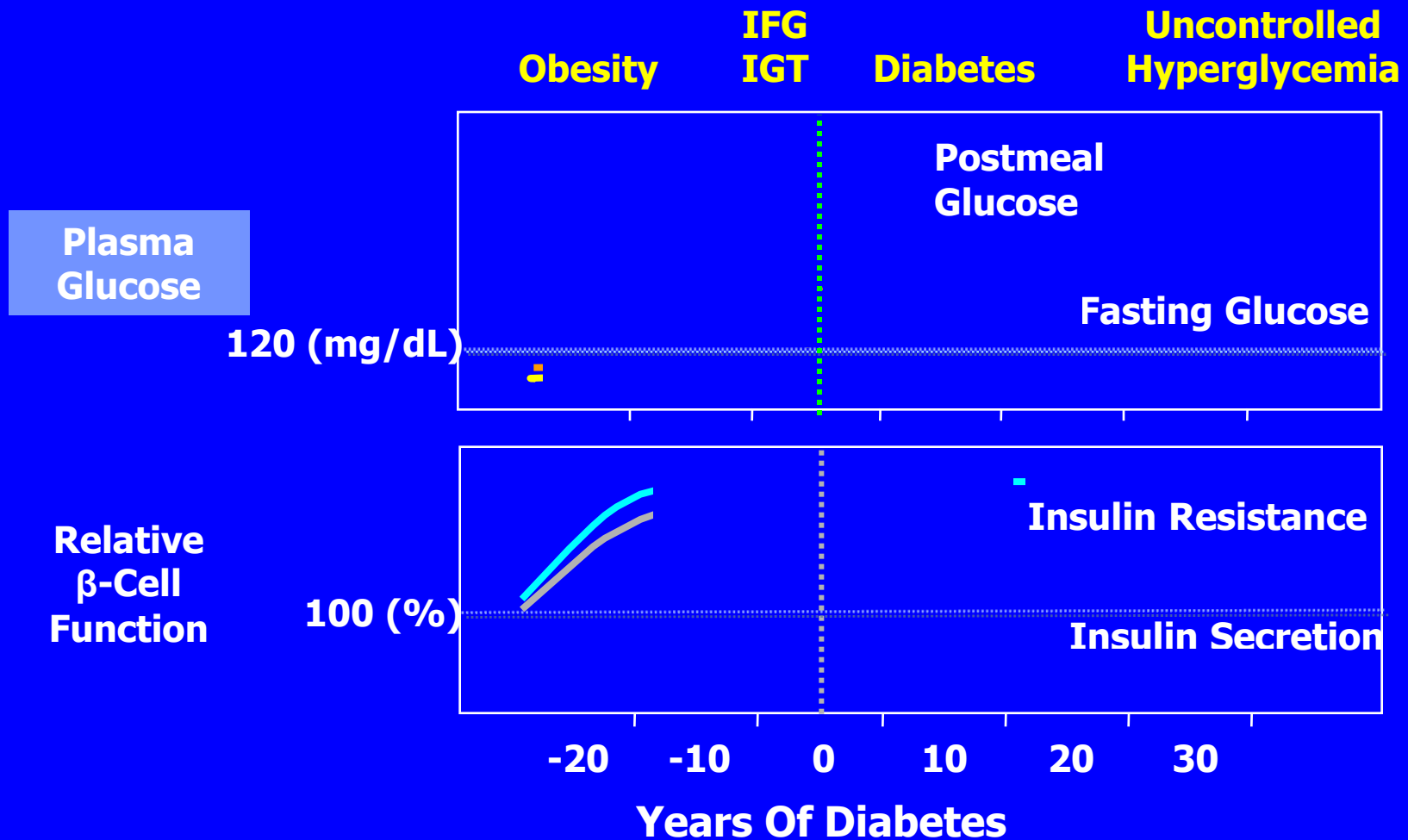
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

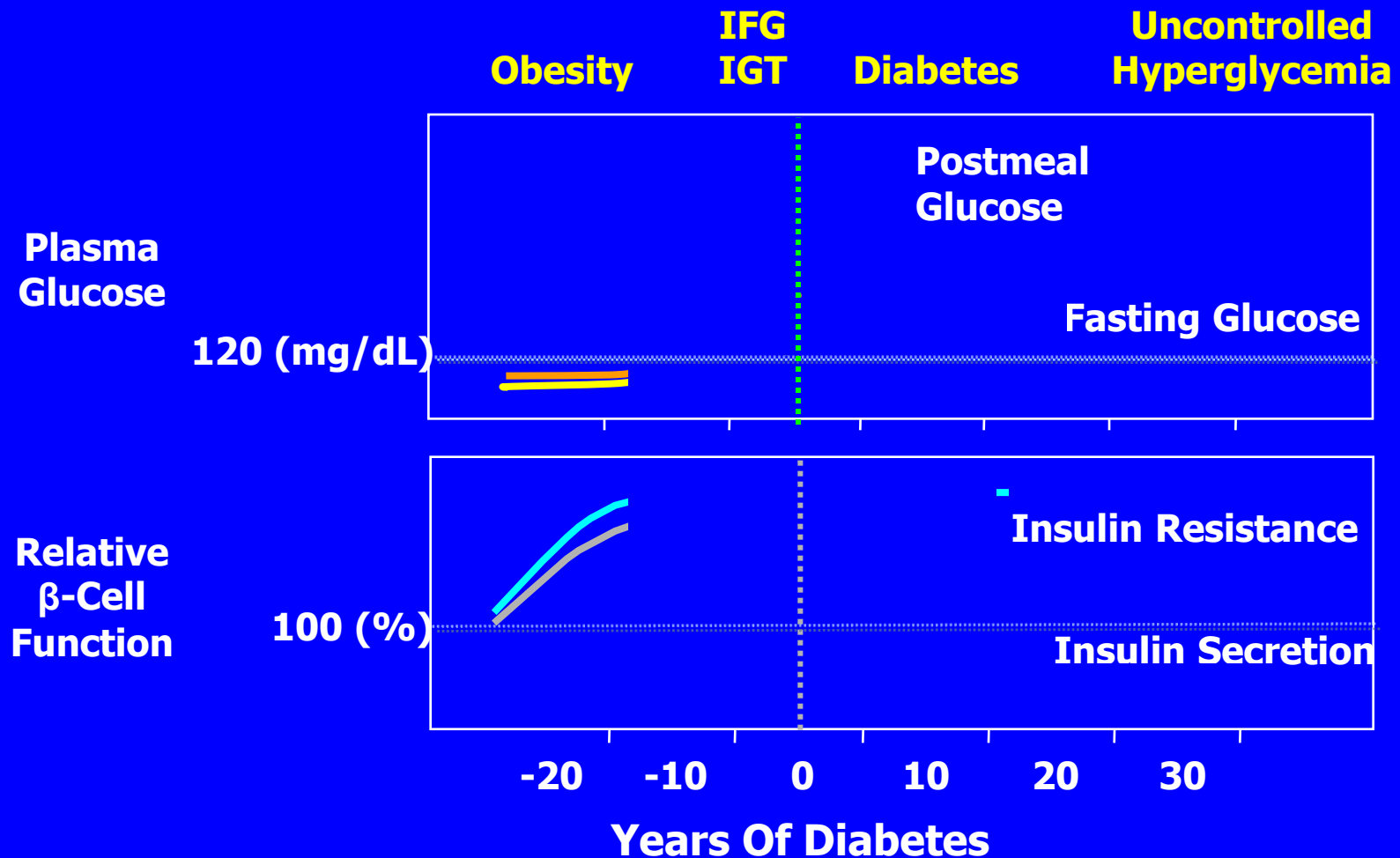
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

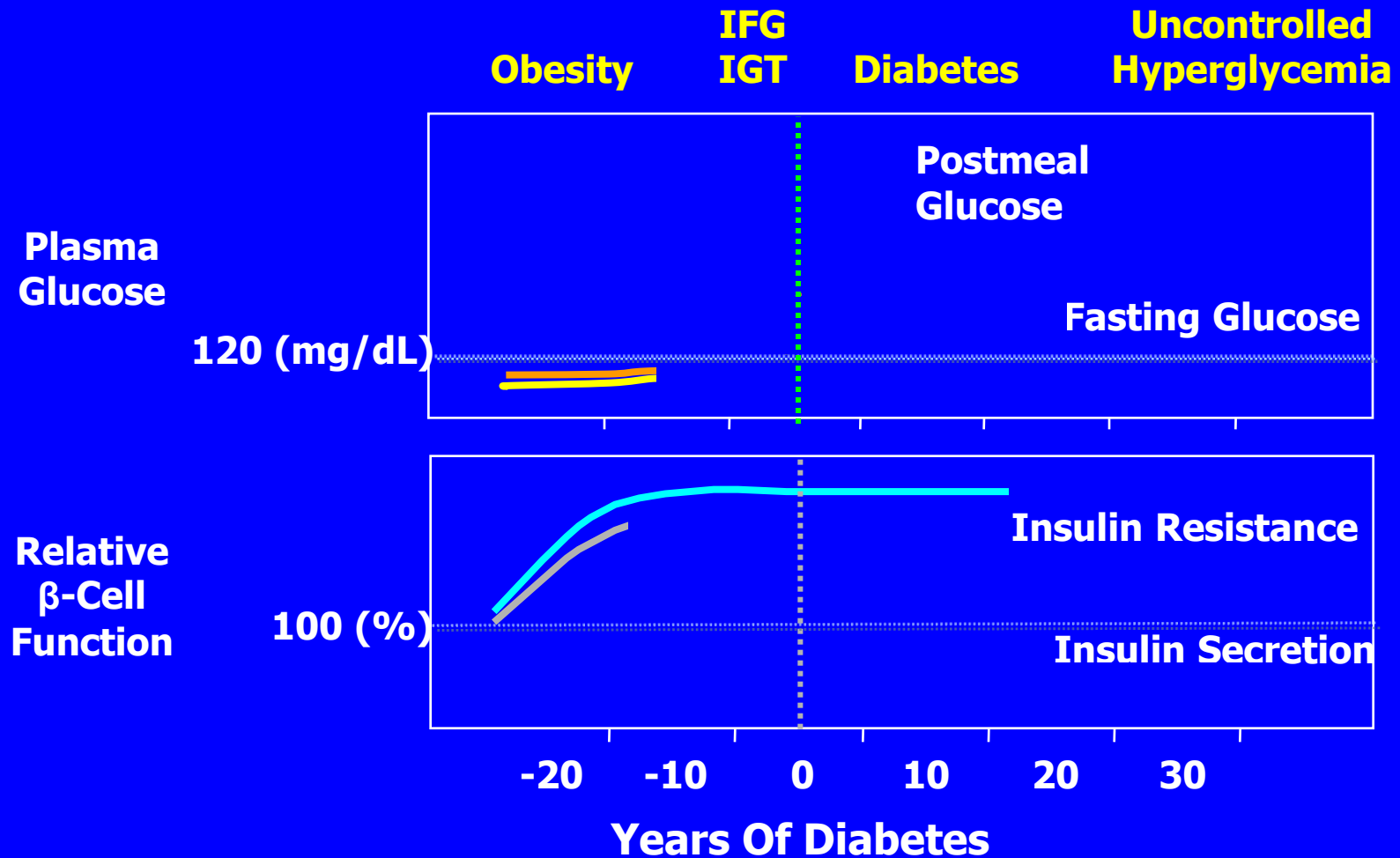
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

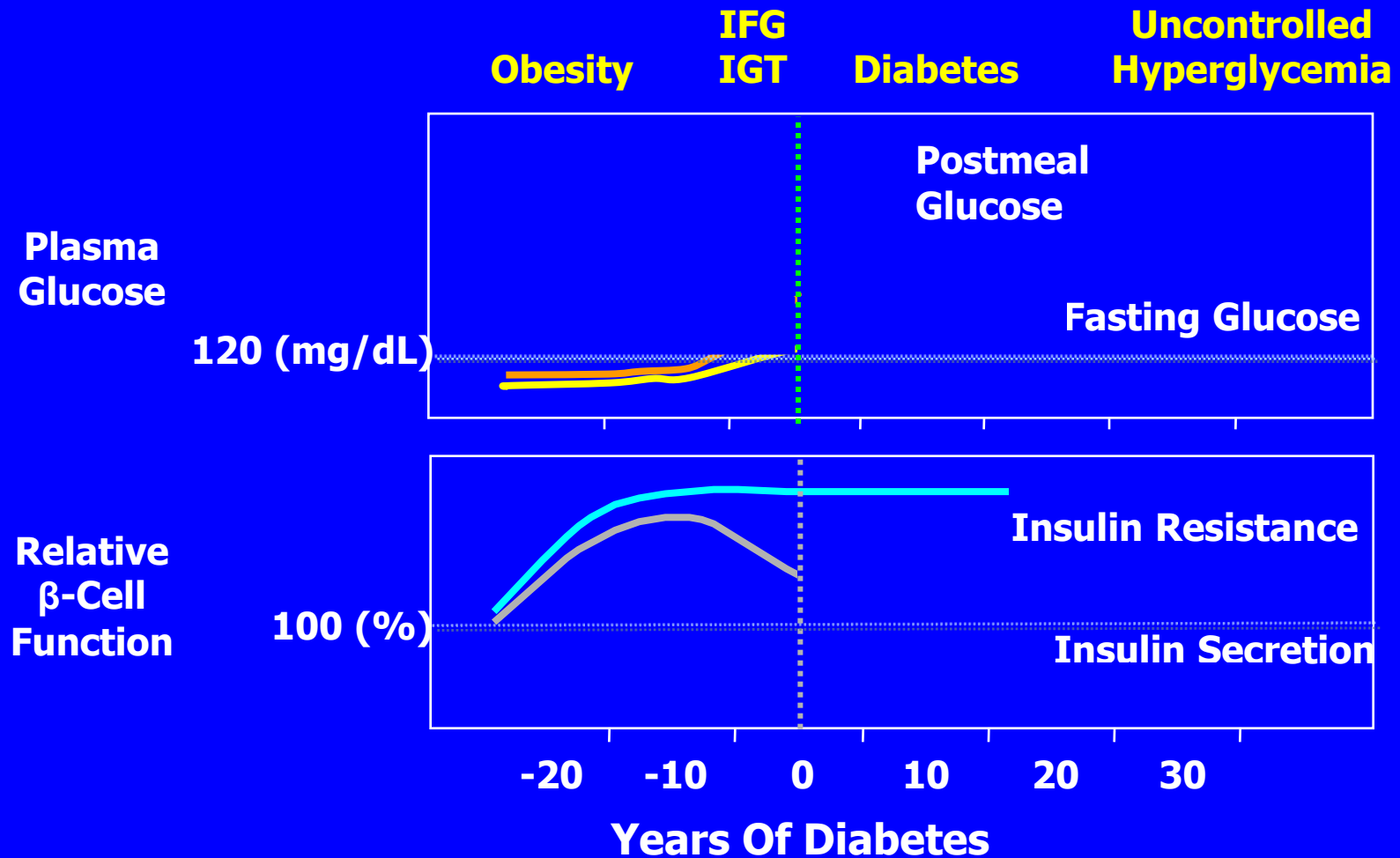
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

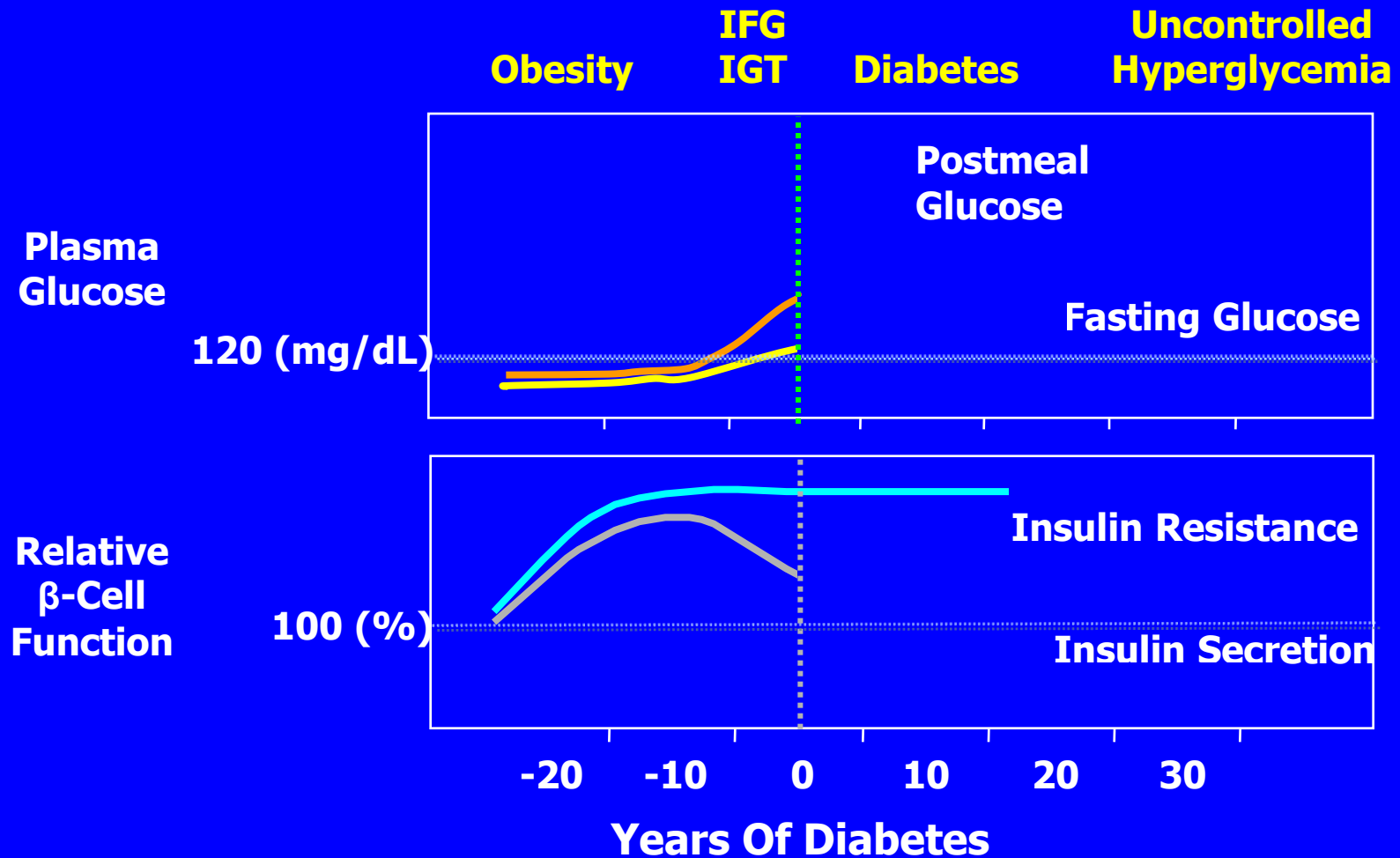
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

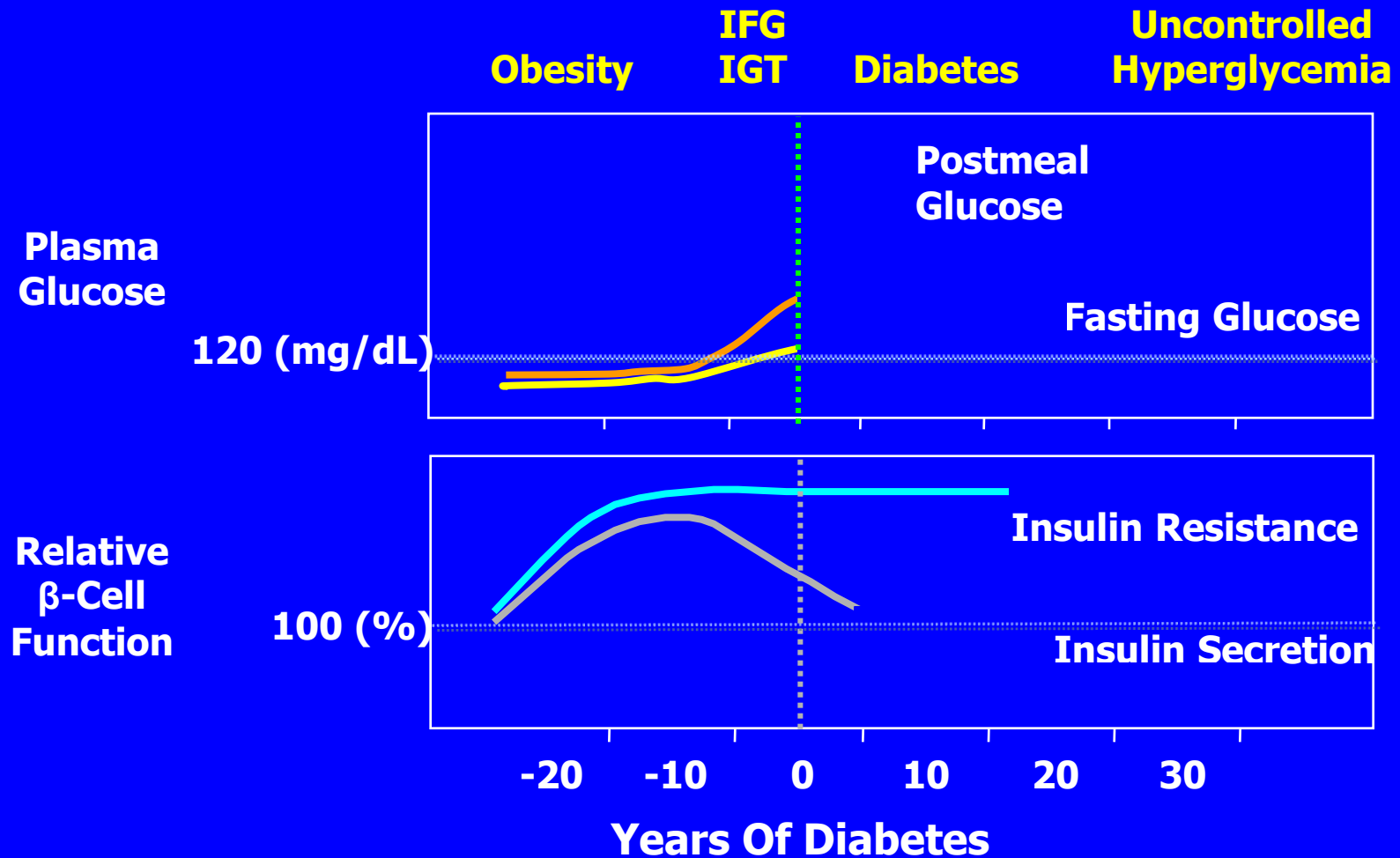
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

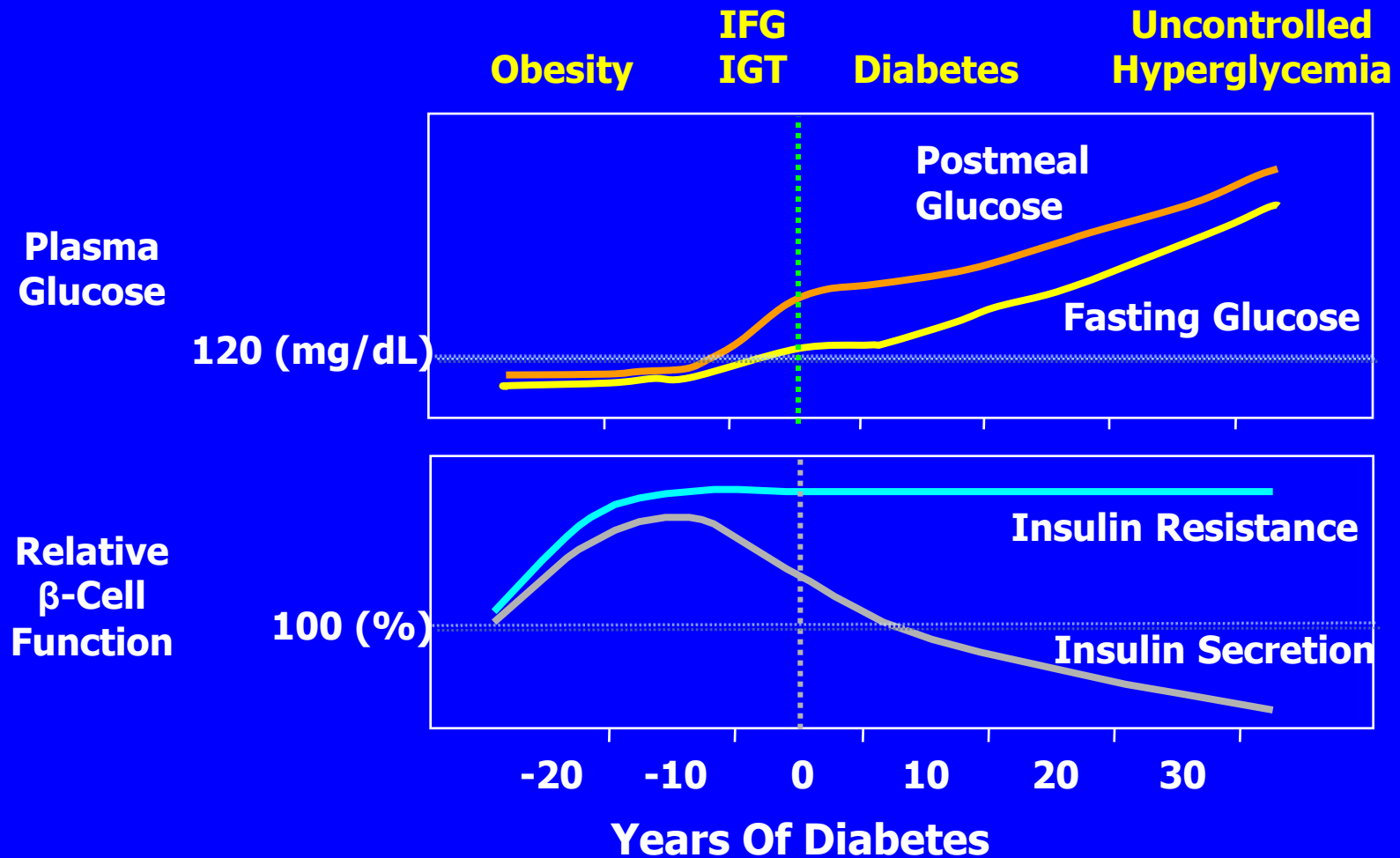
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

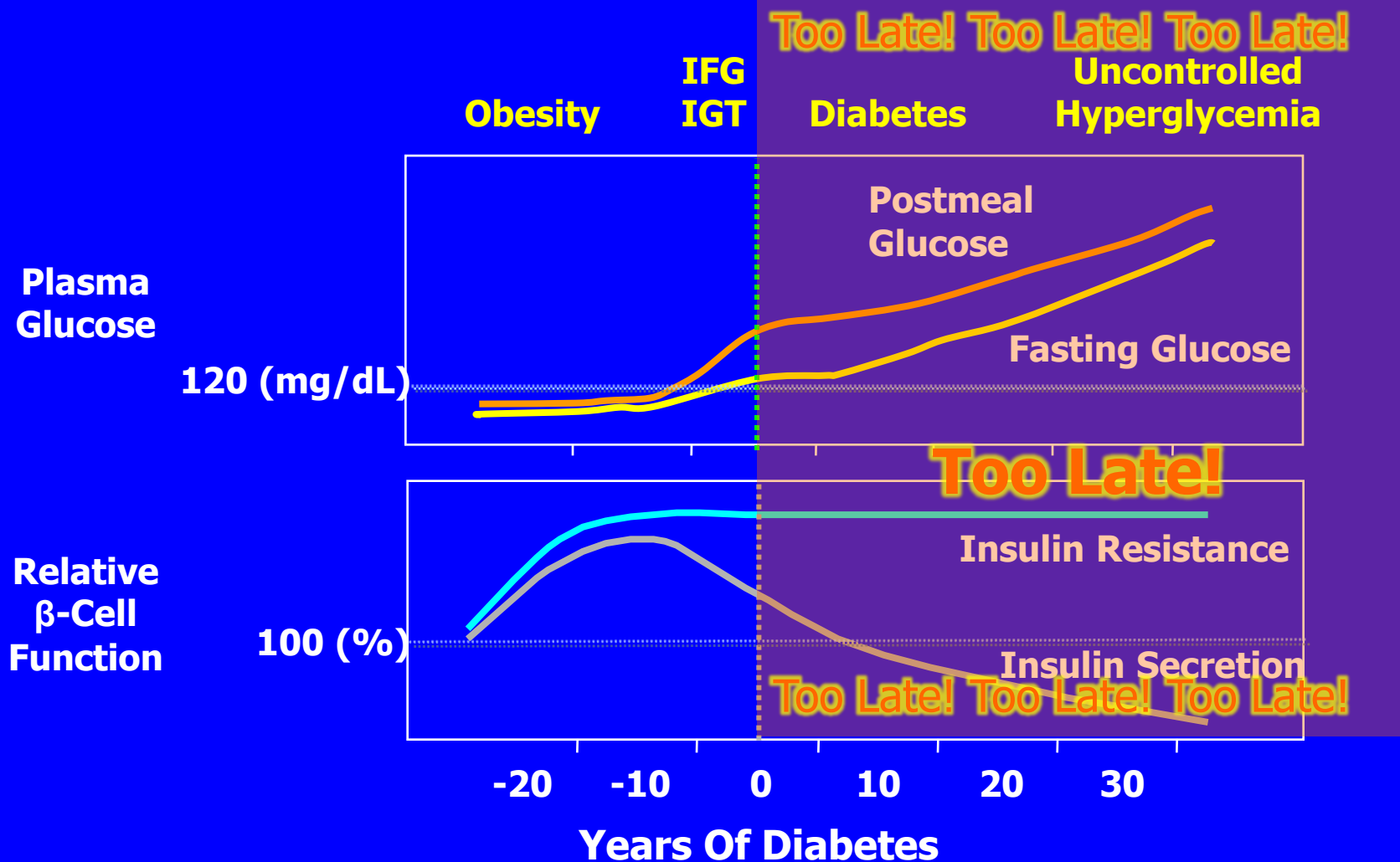
Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

Natural History Of Type 2 Diabetes

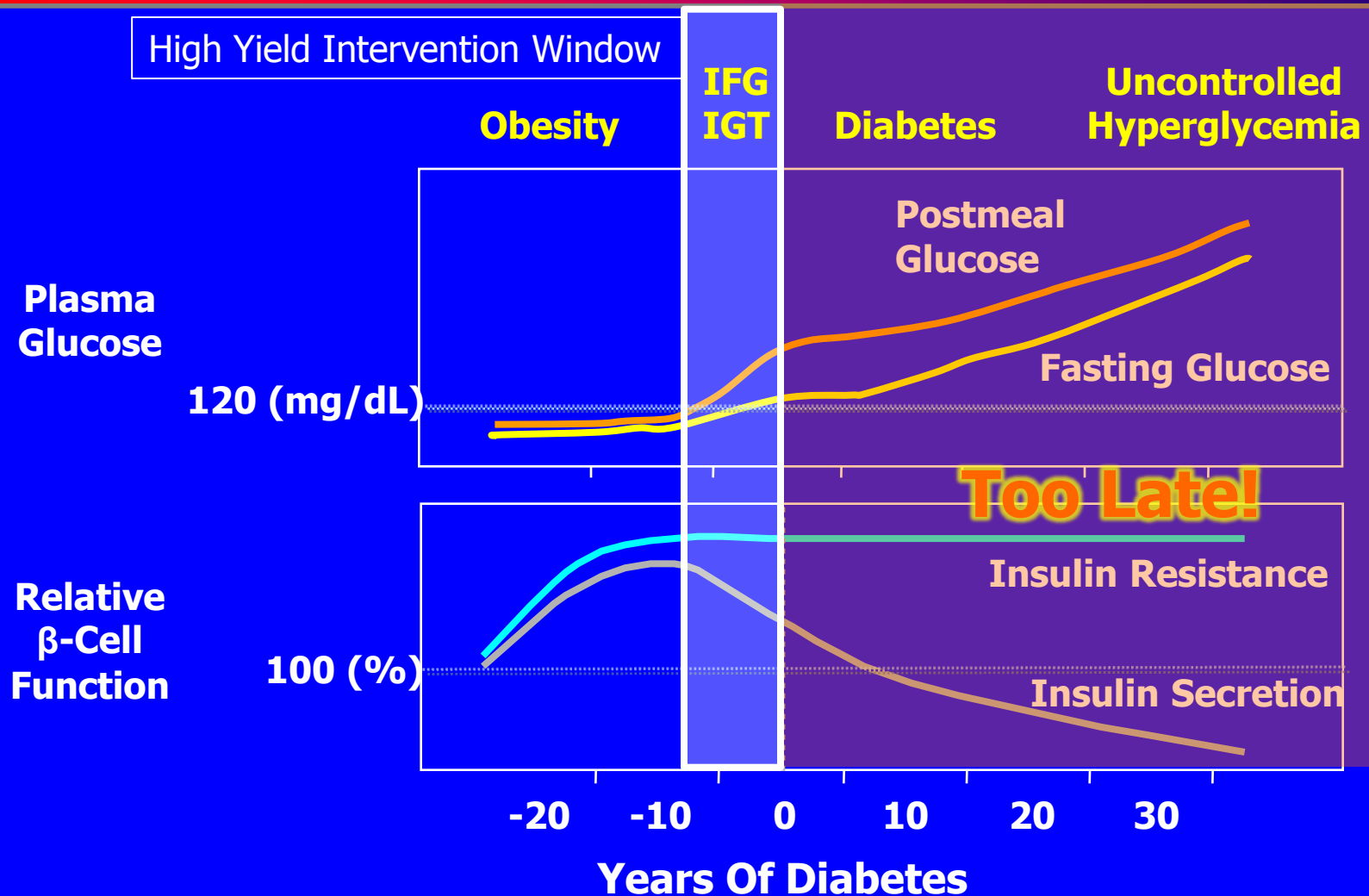


IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

Who are Candidates for Screening and Primary Prevention?

Natural History Of Type 2 Diabetes



IGT = impaired glucose tolerance.

Adapted from International Diabetes Center (IDC), Minneapolis, Minnesota.

High Yield Group: Incidence of Diabetes for Combinations of IFG and IGT

(WHO Criteria)

The Hoorn Study

Dutch, white, 50-75 y.o.

Mean F/U: 5-6 years

	FPG / 2hr PG (mg/dl)	Incidence DM (%/yr)	OR
Normal	<110/140	0.7	1.0
IFG and NGT	110-126/<140	5.1	10.0
NFG and IGT	<110/140-200	5.8	10.9
IFG and IGT	110-126/140-200	11.2	39.5

Candidates for Screening and Primary Prevention: ADA Recommendations

- Age > 45 years: (3 yr.)
- “Pre-diabetes”:
 - IGT,
 - IFG or
 - A1c $\geq 5.7\%$ (annually)
- Overweight/obese (BMI $>25/30$ kg/m²) & Risk factors
 - High risk ethnicity or 1st degree relative
 - Physical inactivity
 - Hypertension, low HDL, high triglycerides, CVD
 - PCOS, had baby > 9lb or hx GDM
 - Acanthosis nigricans

Medicare Coverage

- Blood tests if at risk for DM or have pre-diabetes
- Diabetes screening every 12 months if:
 - Hypertension
 - Dyslipidemia
 - Prior test showing poor glucose tolerance
 - Obese (body mass index of 30 or more)
 - At least two of the following:
 - overweight (BMI 25 - 30),
 - family history of diabetes,
 - diabetes during pregnancy (gestational diabetes),
 - had a baby over nine pounds,
 - 65 years of age or older

Medicare Coverage

- The Medicare-covered diabetes screening test includes:
 - A fasting blood glucose tests; **and/or** a post-glucose challenge test
- If a patient has been diagnosed with pre-diabetes, Medicare will cover two diabetes screening tests a calendar year.

ICD-9 Pre-diabetes Codes

790.29 Other abnormal glucose

- Abnormal glucose NOS
- Abnormal non-fasting glucose
- Hyperglycemia NOS
- Pre-diabetes NOS

Candidates for Screening and Primary Prevention

- Choice of screening test
 - FPG
 - 2-h OGTT
 - A1c (insensitive)

Strategies to Identify Adults at High Risk for Type 2 Diabetes

- OGTT finds more people with impaired glucose homeostasis, prediabetes, and thus, more people who will progress to diabetes.
- But, A1C is easy to do
- Prevention interventions tested primarily in OGTT, not for A1c levels

The Expert Committee. *Diabetes Care* 20:1183-97, 1997

ADA-NIH Consensus. *Diabetes Care* 27:549-54, 2004

DPP Research Group. *Diabetes Care* 28: 150-6, 2005

Diabetes Care 35(S1):S14, 2012. Standards of Medical Care in Diabetes

To Prevent, Need to Know
Why so much diabetes?

To Prevent, Need to Know Why so much diabetes?

■ Genetic Factors

	Child's risk
• Parent with Type 1	4-6 %
• Both with Type 1	10-25 %
• Polyglandular AutoImmune	50 %
• Parent, Type 2 (Dx <50 y.o.)	14 %
• Both parents Type 2	50 %

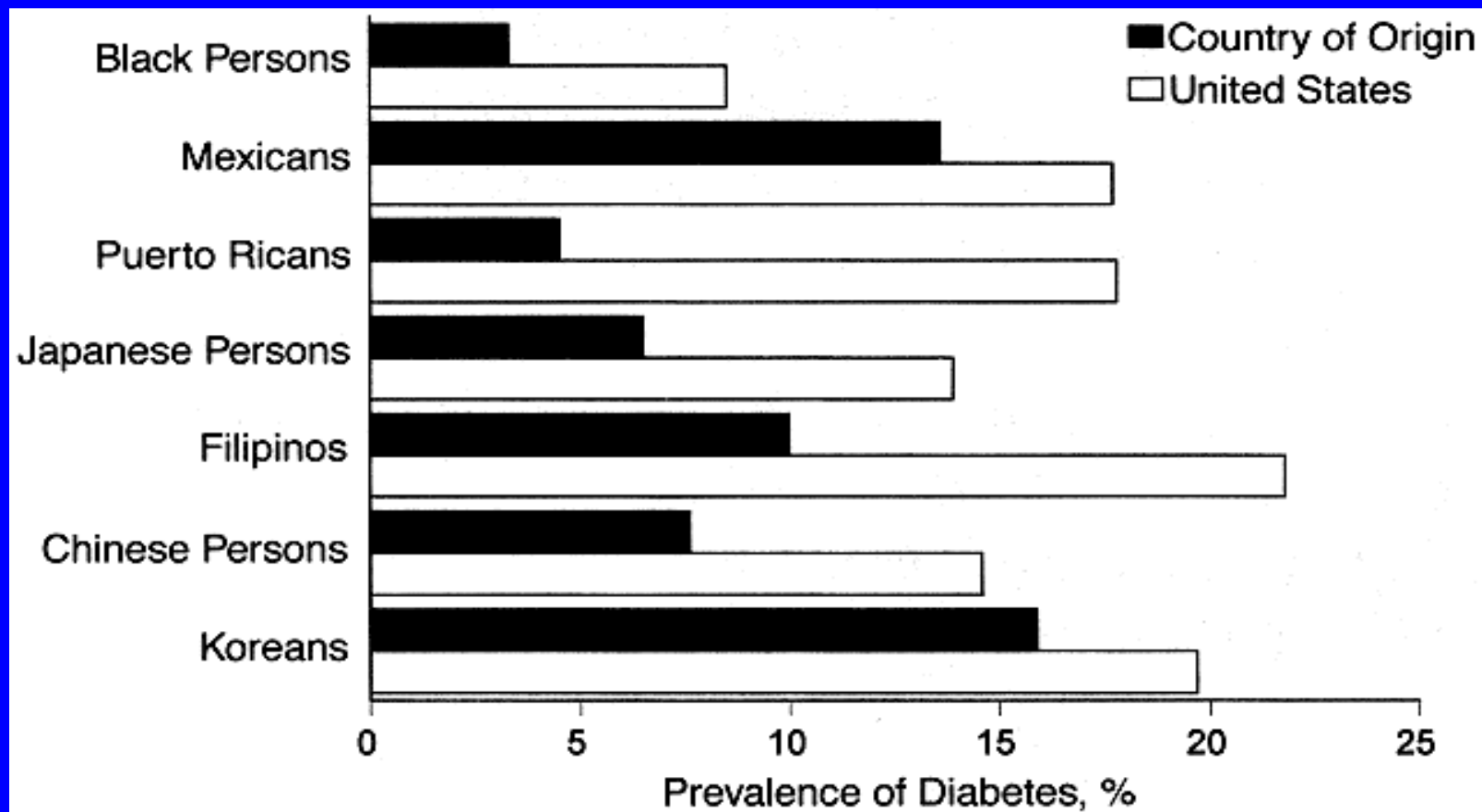
For Genetic Prevention, Pick Your Parents Carefully!

To Prevent, Need to Know Why so much diabetes?

- Genetic Factors
- Environmental factors

Diabetes Prevalence: Population/Gene Pools

Rate Diabetes in Country of Origin vs. U.S.



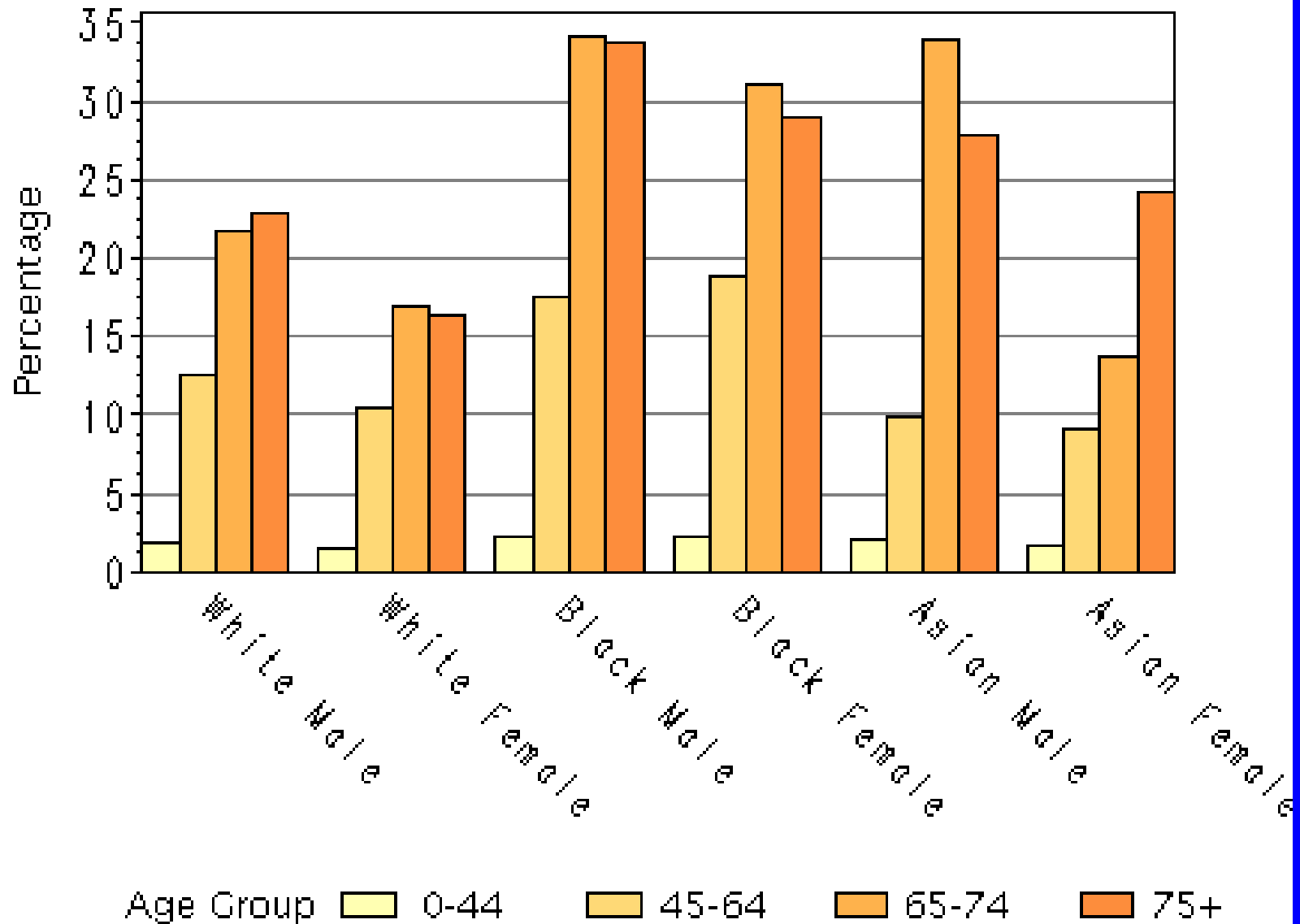
To Prevent, Need to Know Why so much diabetes?

- Genetic Factors
- Environmental factors

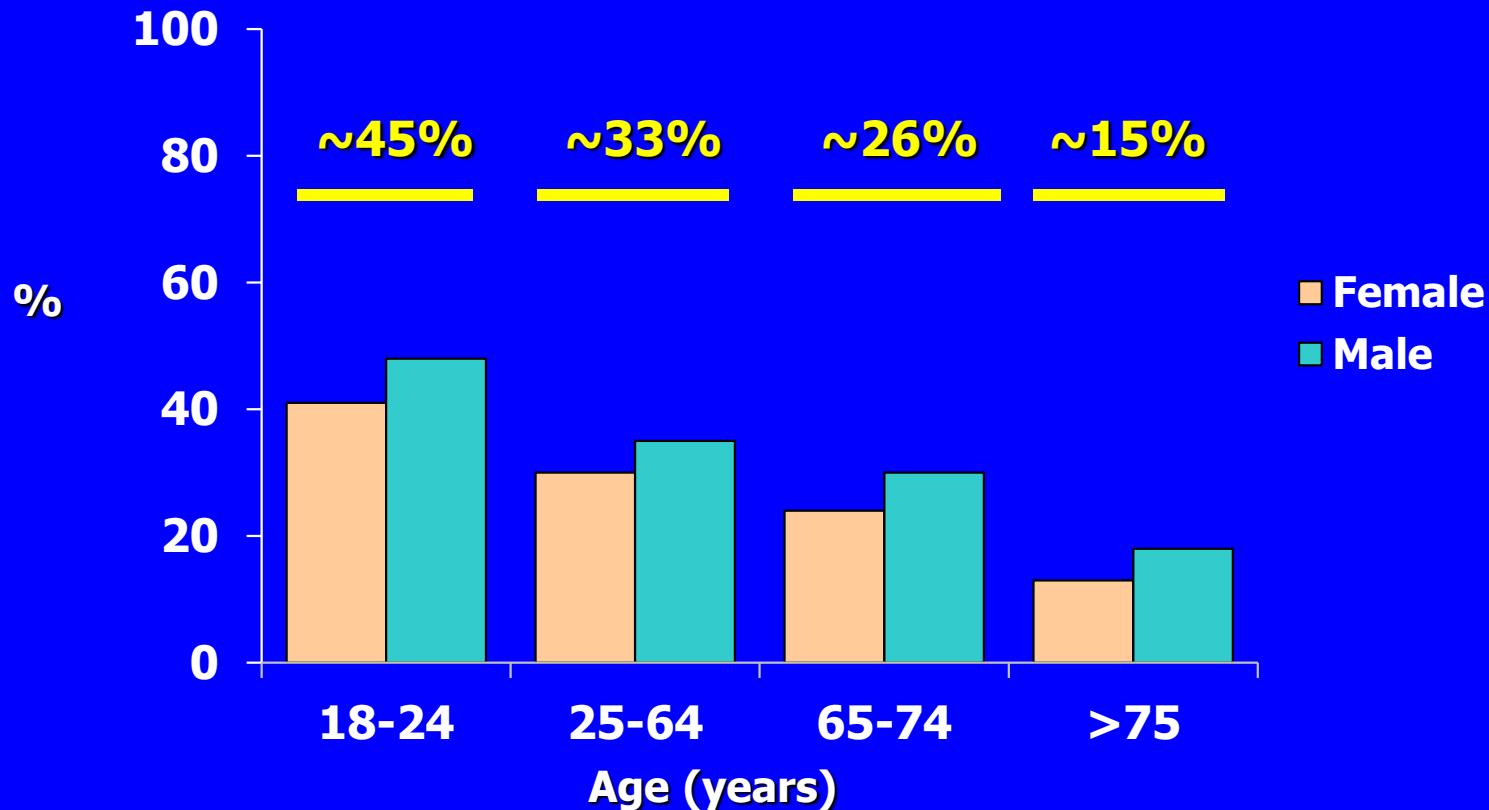
To Prevent, Need to Know Why so much diabetes?

- Genetic Factors
- Environmental factors
- Aging

Diabetes Prevalence Increases with Age



Leisure-Time Physical Activity Among US Adults: NHANES III

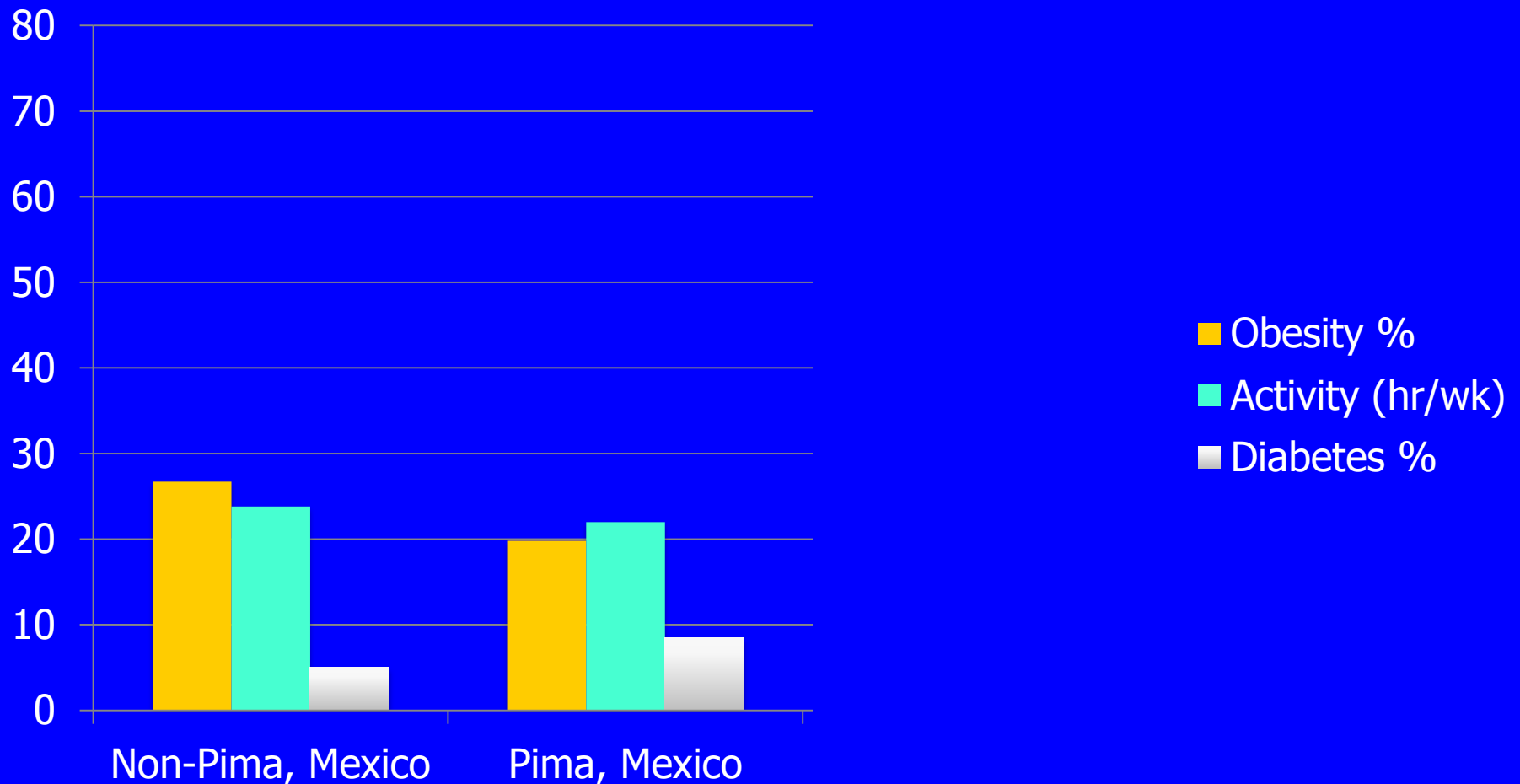


Leisure time physical activity: light-moderate physical activity > 30 min 5 or more times per week or vigorous exercise \geq 20 min 3 or more times per week

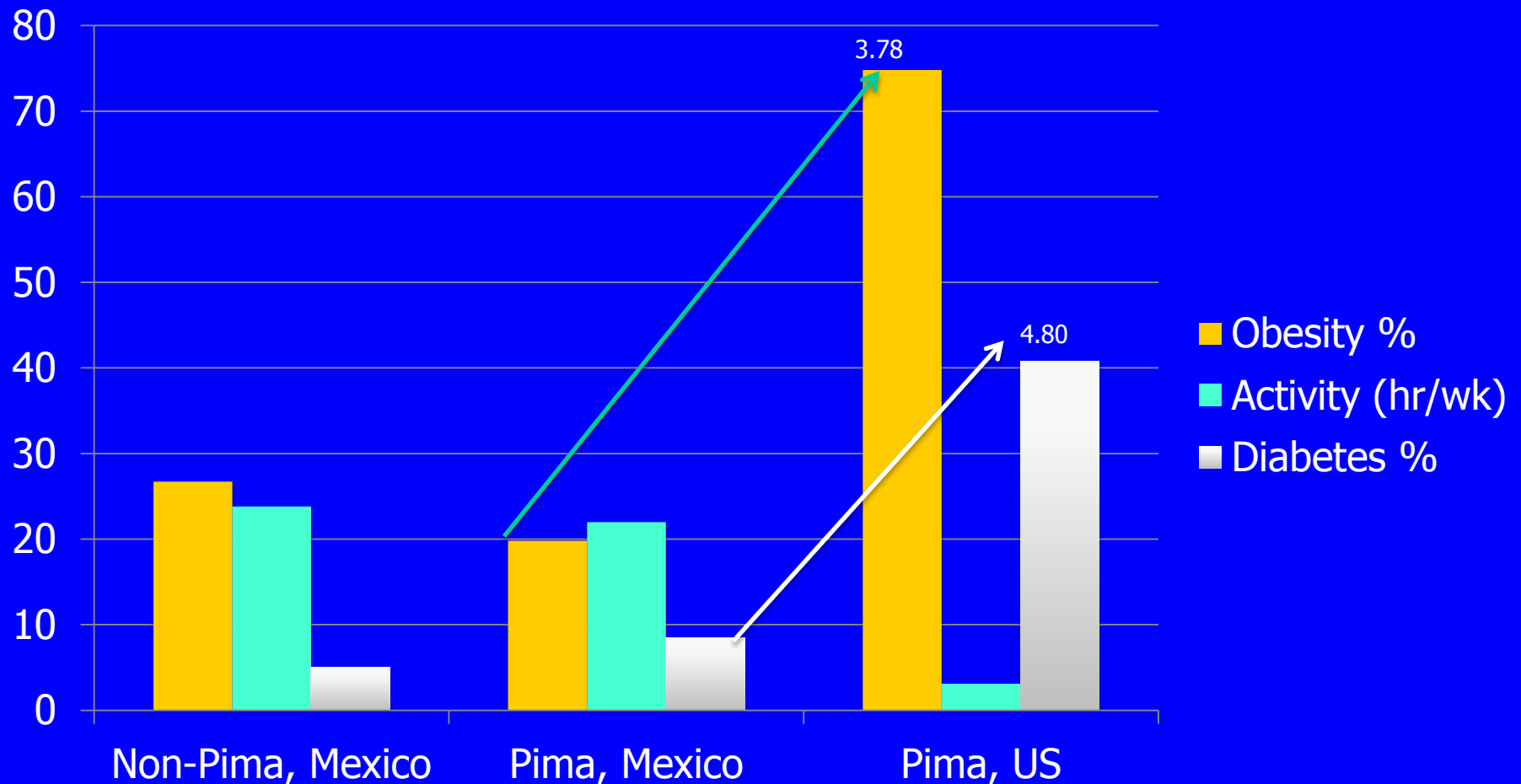
To Prevent, Need to Know Why so much diabetes?

- Genetic Factors
- Environmental factors
 - Diet
 - Physical inactivity
- Aging

Diabetes Prevalence (Females): Genetics, Obesity, Physical Activity



Diabetes Prevalence (Females): Genetics, Obesity, Physical Activity



Physical Inactivity – Extreme Choices



To Prevent, Need to Know Why so much diabetes?

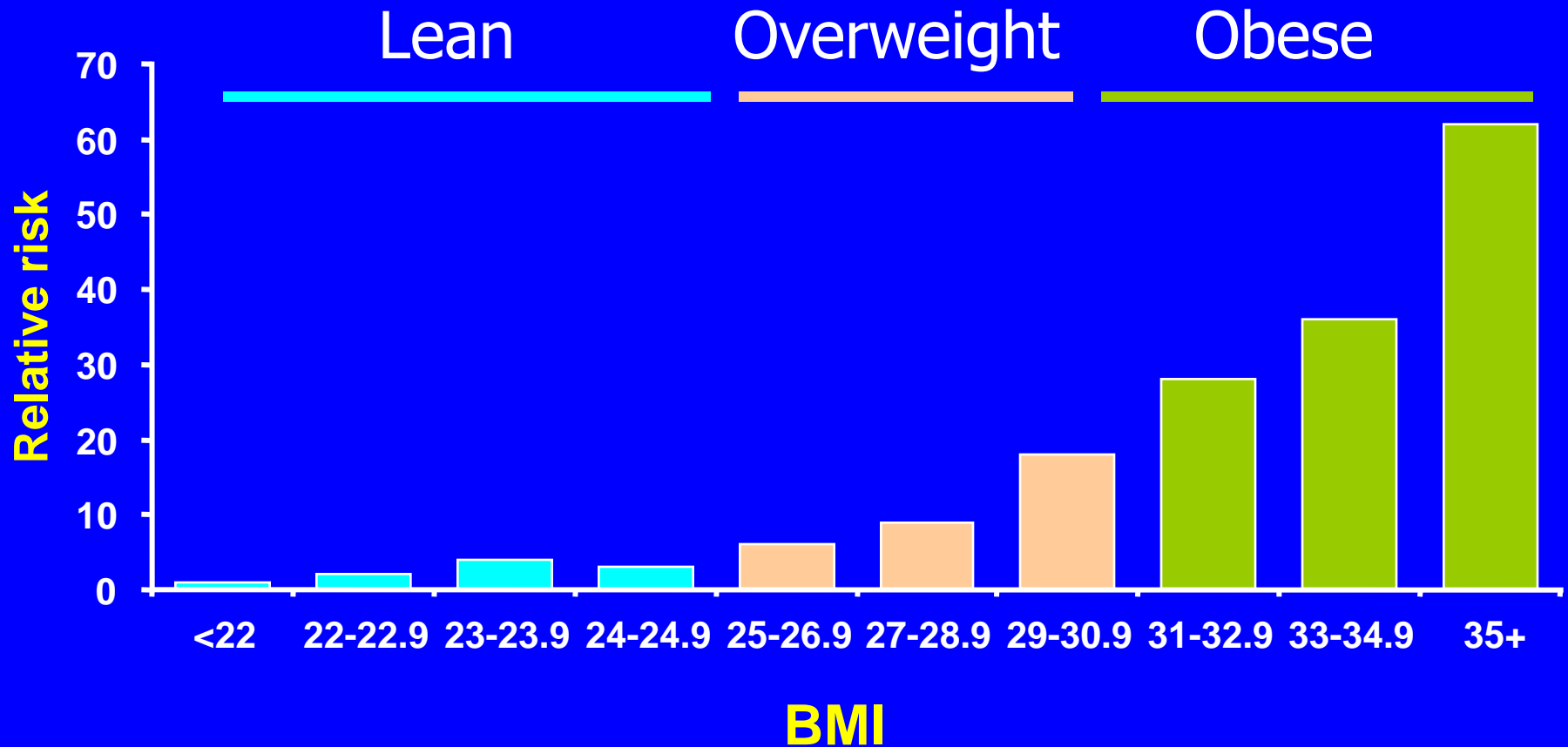
- Genetic Factors
- Environmental factors
 - Diet
 - Physical inactivity
- Aging

- Add Diet and Inactivity and get:

Genetics & Lifestyle Choices

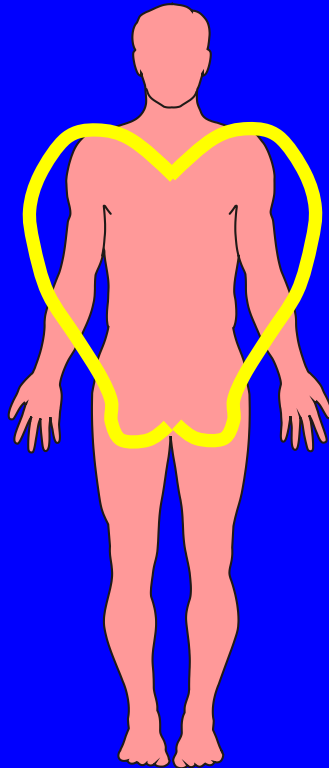
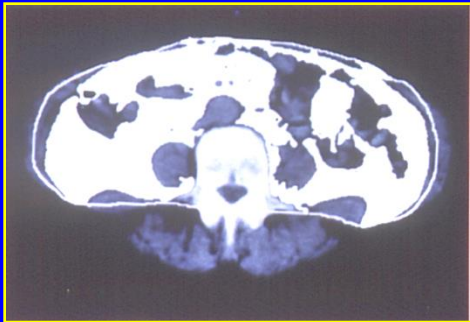


Obesity and Risk of Type 2 Diabetes



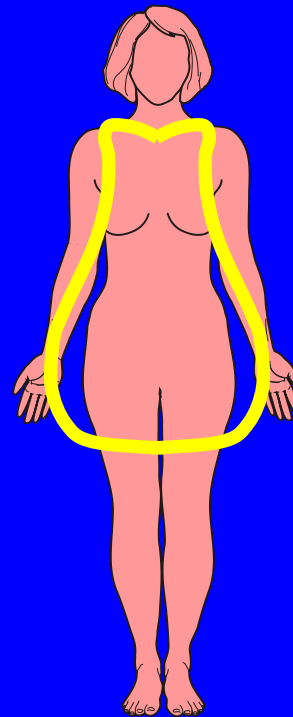
Body Type and Obesity

**Apple
shaped**



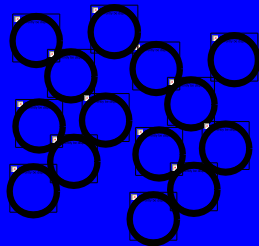
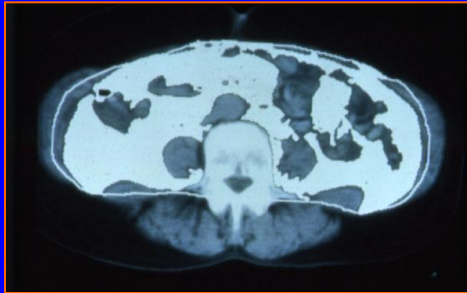
Higher Risk

**Pear
shaped**

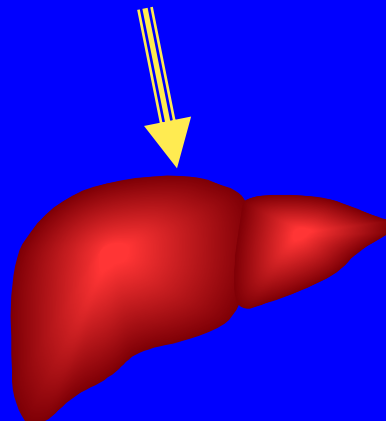


Lower Risk

Adipose Tissue



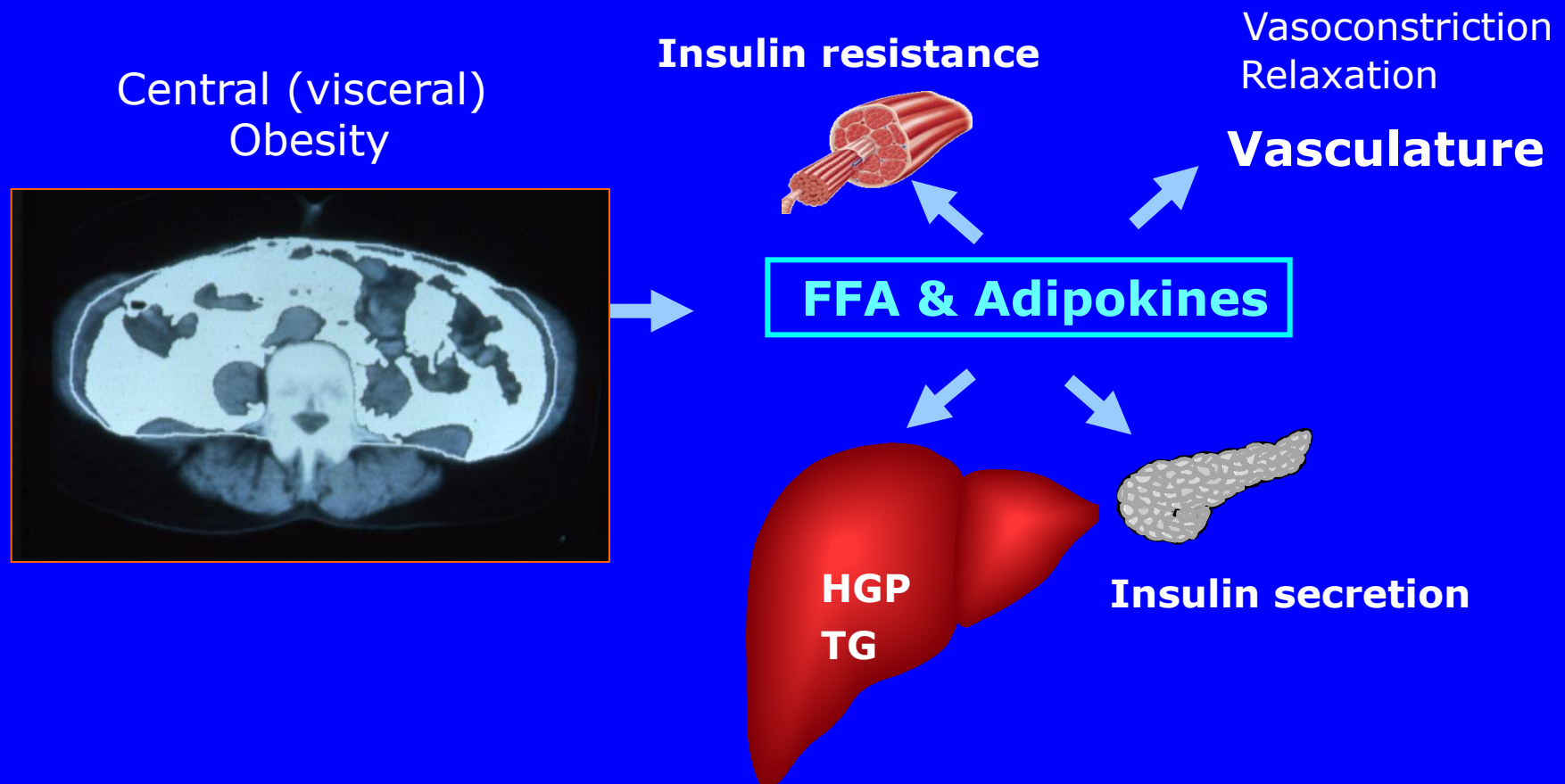
Visceral Fat ⇒



Change in Gene
Expression:
G6pase ↑
PEPCK ↑
Other

- FFA
- Leptin
- Angiotensinogen
- Resistin
- CRP
- TNF-α
- PA-1
- Serum Amyloid-A
- IL-6, IL-1
- Cortisol
- Visfatin
- MCP-1

Role of **Fatty Acids** and **Adipokines** in the Pathogenesis of Insulin Resistance



Is It Possible to Prevent or Delay Diabetes?

Is It Possible to Prevent or Delay Diabetes?

It would be a pretty short talk if the answer
were “No”

Lifestyle Modification Studies

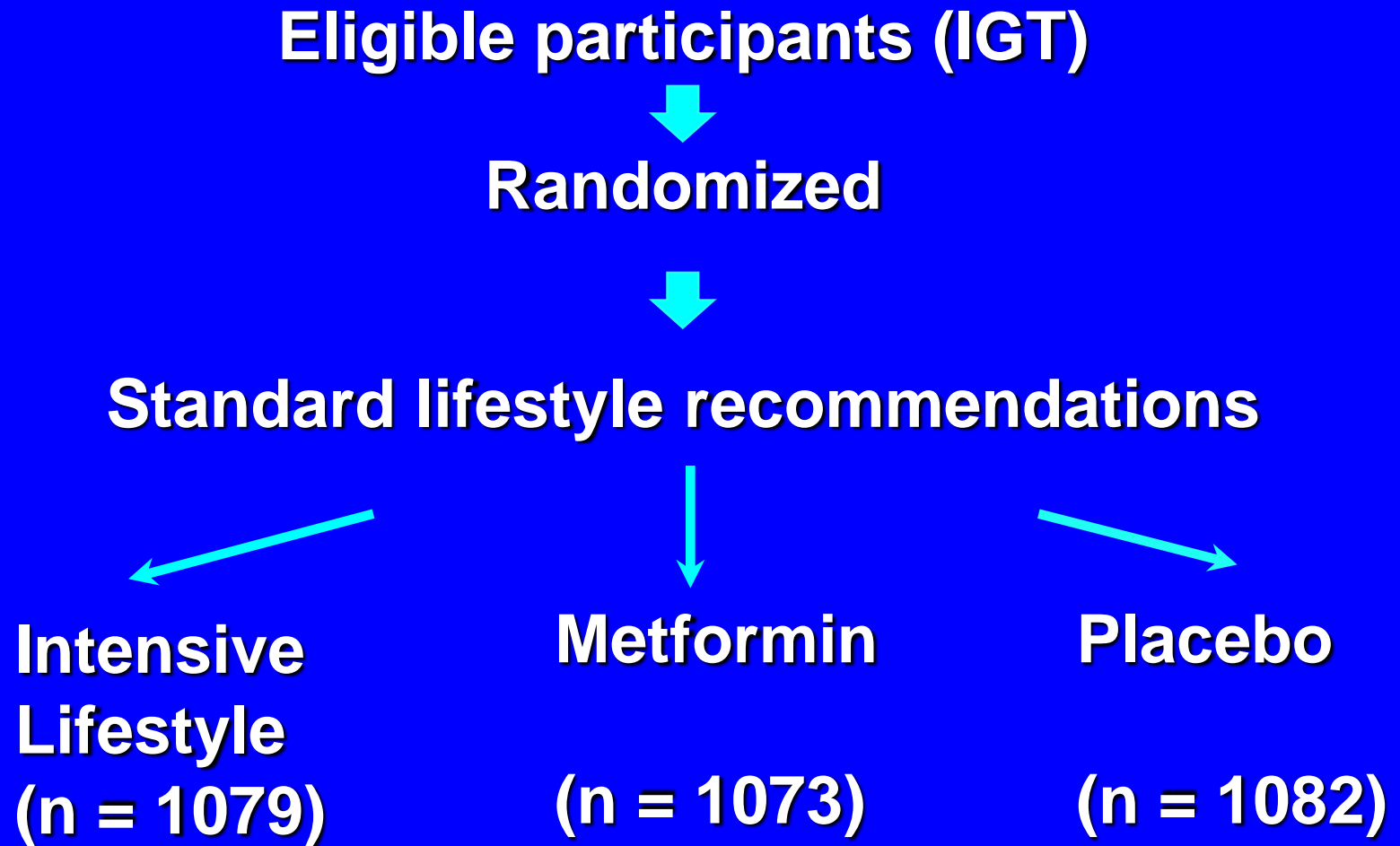
■ Diabetes Prevention Program (DPP)

Diabetes Prevention Program (DPP)

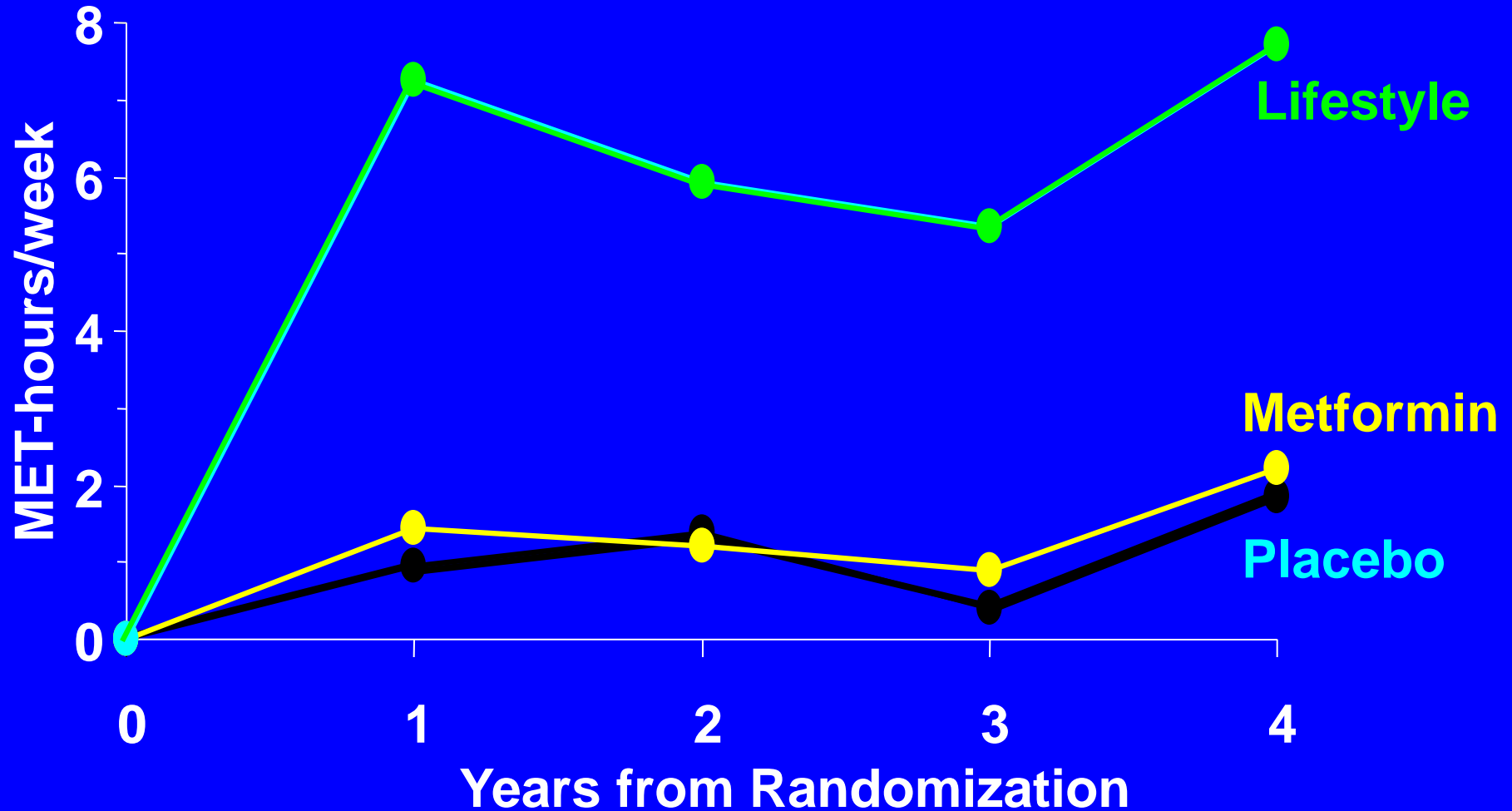
- Enrolled 3,234 subjects-IGT plus elevated FPG
 - ◆ 1043 men, 2191 women
 - ◆ Mean age 51 yr
 - ◆ Mean BMI 34 Kg/m²
 - ◆ Fasting glucose between 95 – 125 mg/dL
 - ◆ IGT based on a 75 g OGTT (2 h glucose 140-199 mg/dl)

- **Interventions:**
 - ◆ Intensive lifestyle intervention - 7% wt. loss, 2.5 hr/wk exercise
 - ◆ Standard lifestyle recommendations plus metformin
 - ◆ Standard lifestyle recommendations plus placebo

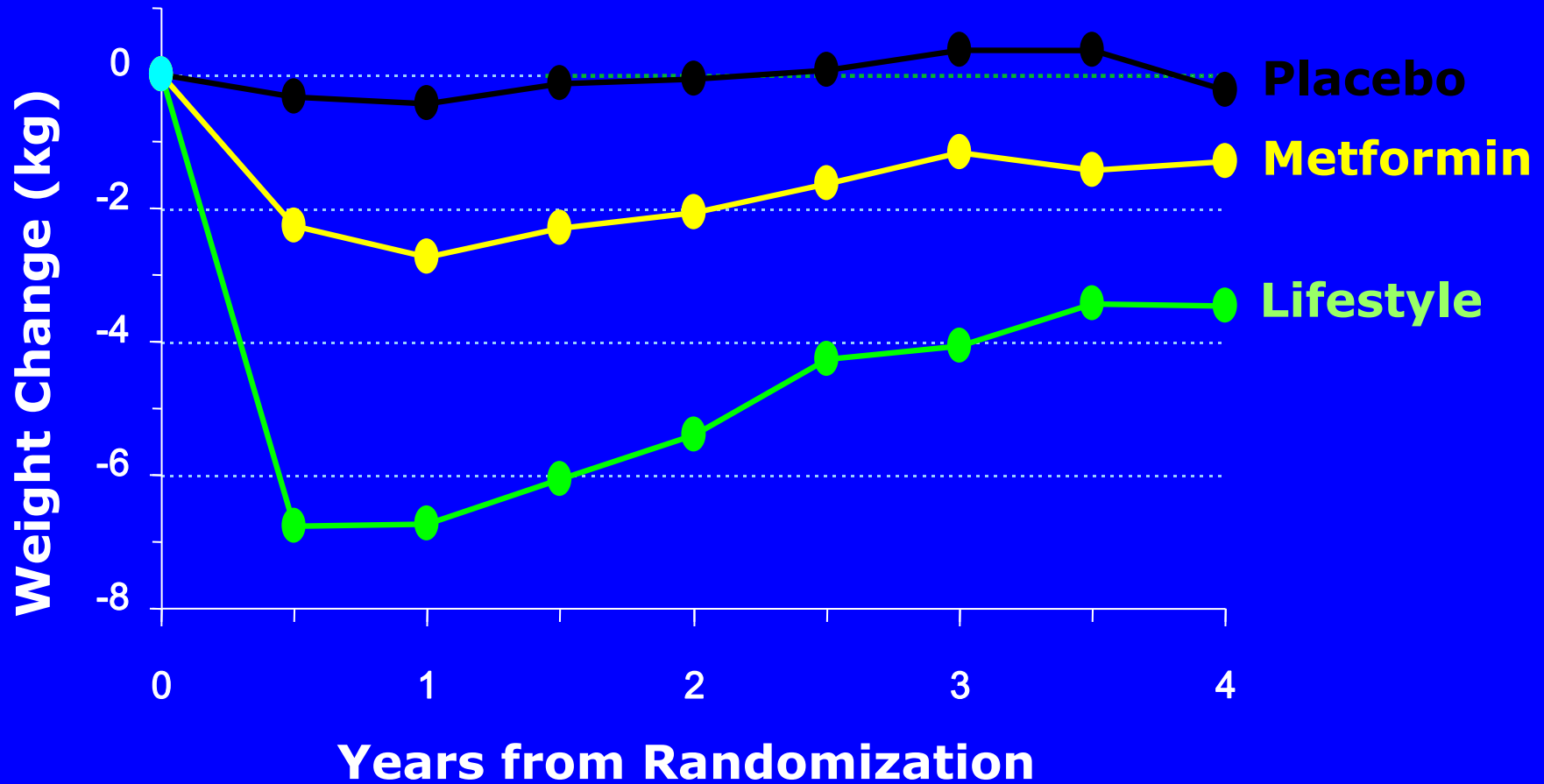
DPP Study interventions



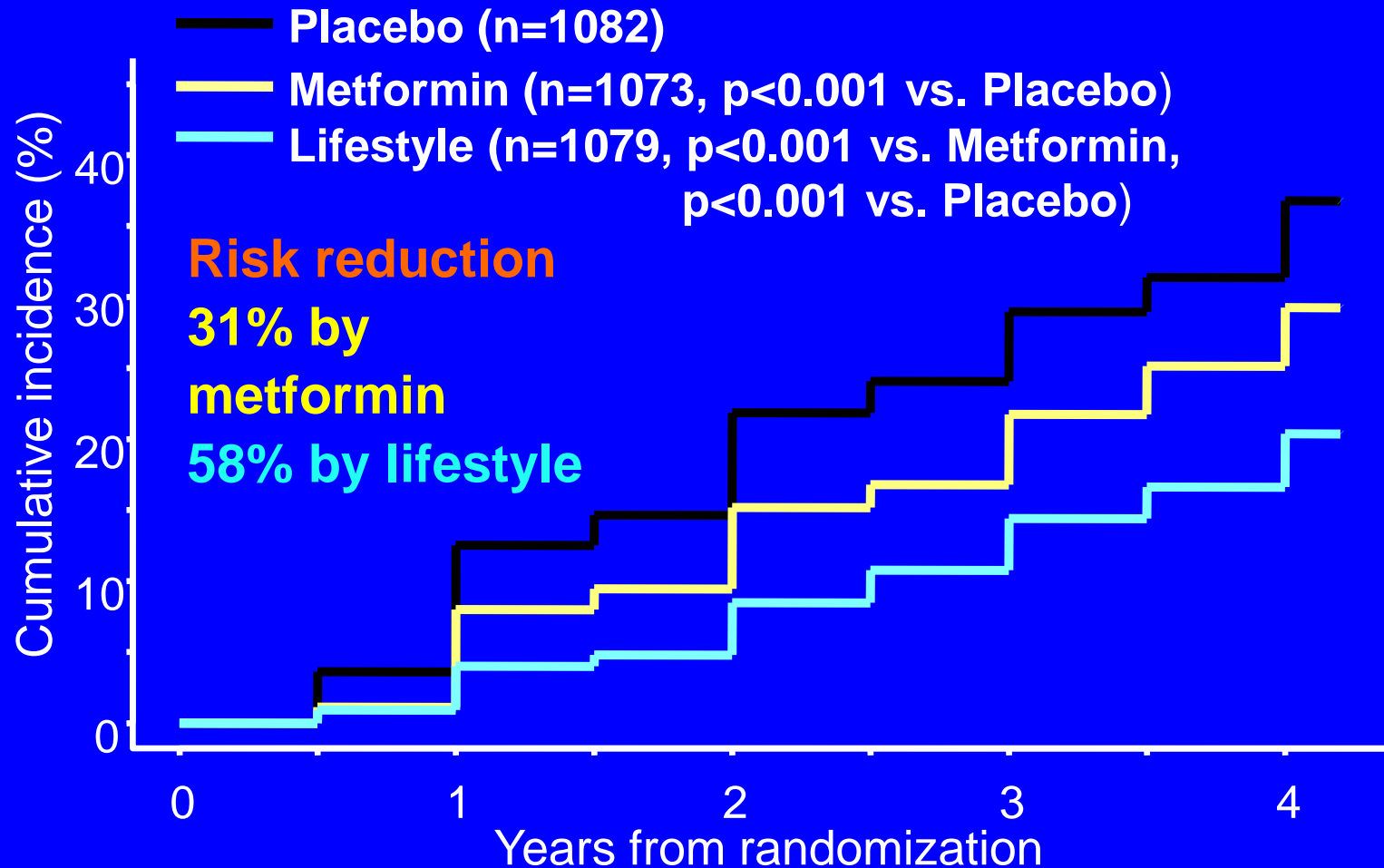
Mean Change in Leisure Physical Activity



Mean Weight Change



Diabetes Prevention Program: Progression to Type 2 Diabetes

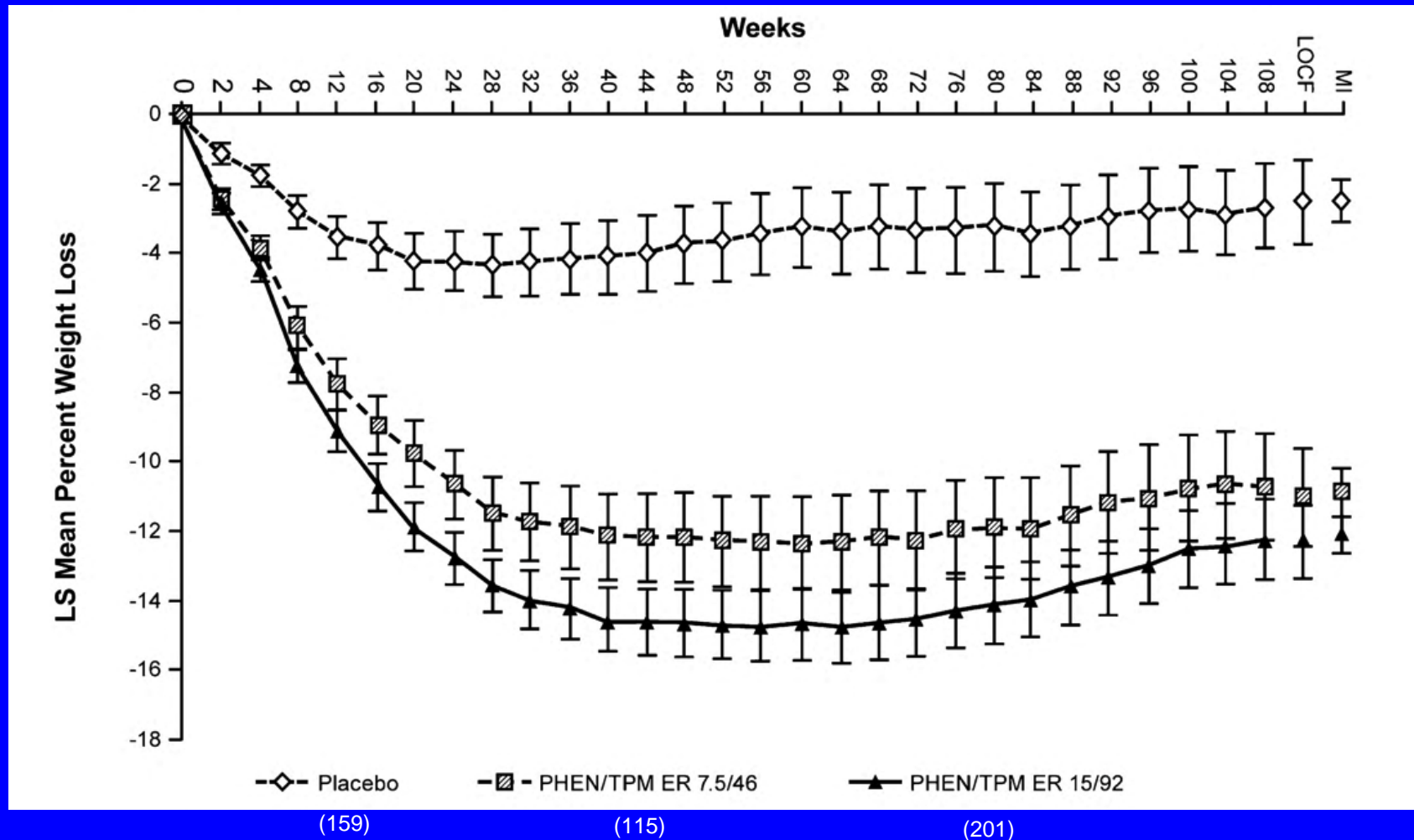


Prevention Programs

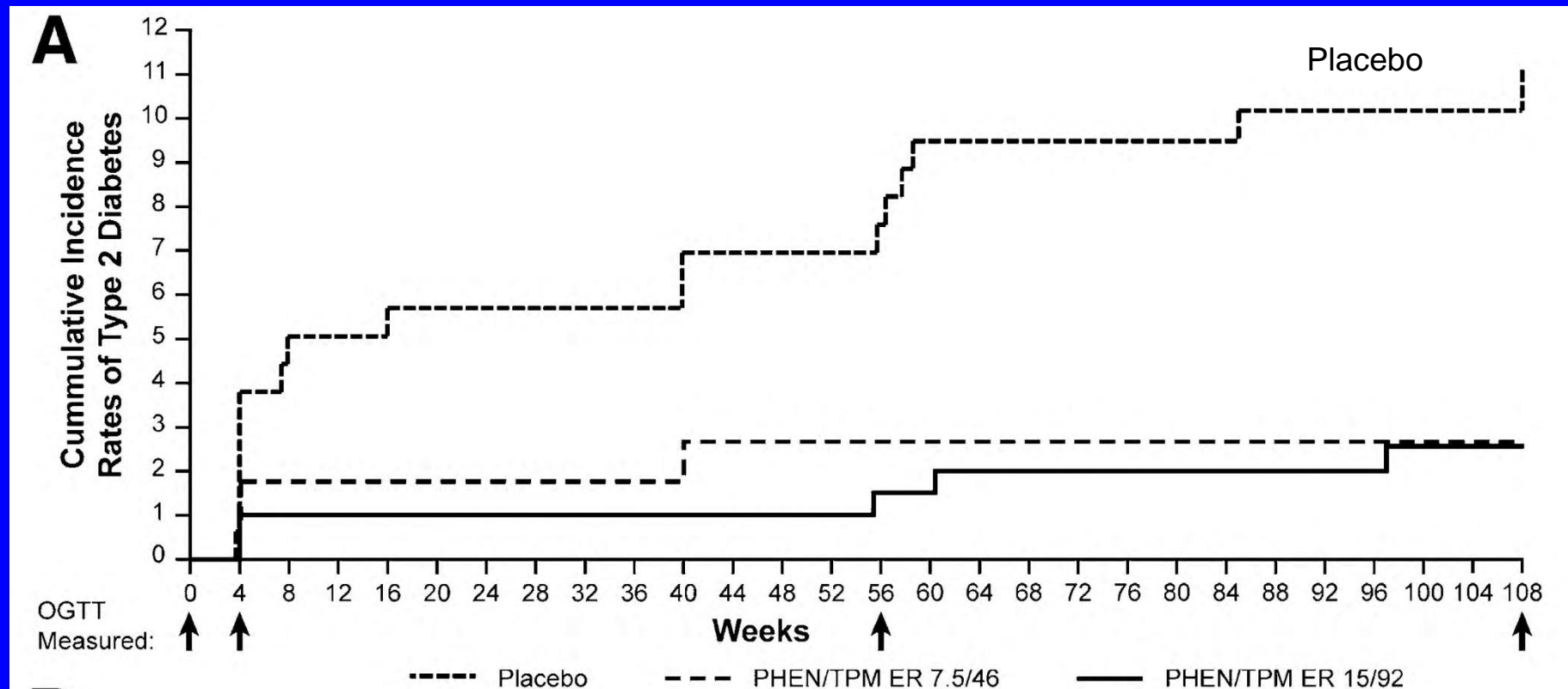
(Timothy Leary version):

“I’m tired can’t I just take a pill?”

Phentermine/Topiramate Causes Weight Loss in Pre-diabetes/Metabolic Syndrome

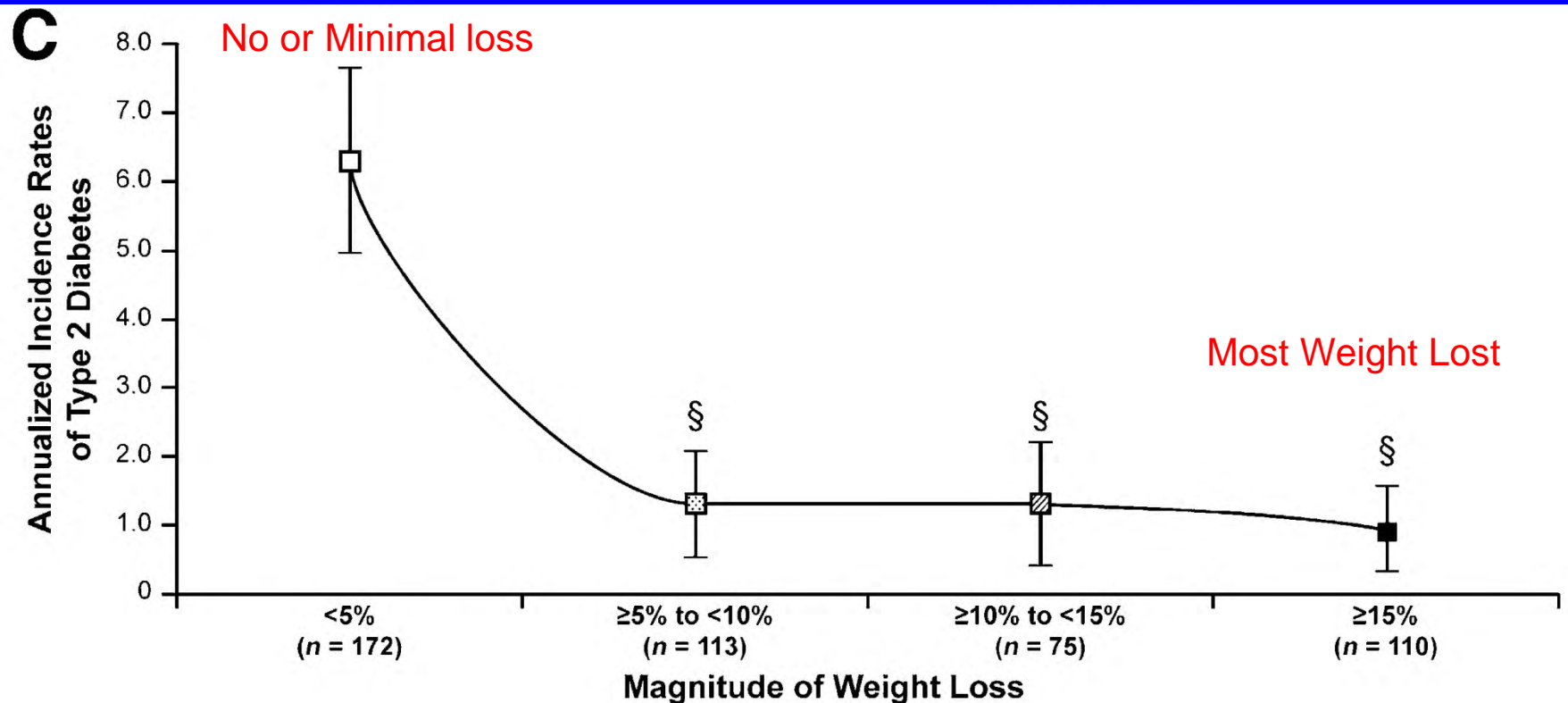


Drug for Weight Loss Prevents Diabetes by 70-79%



Drug for Weight Loss Prevents Diabetes

More Prevention with More Weight Loss



Primary Intervention Trials of T2DM

Year	Study	Duration Follow up	Type Intervention	Incidence Diabetes
1982	Sweden Trial	10 yr	Diet + SU	No effect
1982	Bedford	10 yr	Diet + SU	Decrease
1991	Malmo	10 yr	Diet + exercise	Decrease
1997	Da Quing	6 yr	Diet + exercise	Decrease
2001	DPS, Finland	3 yr	Diet + exercise	Decrease, 58%
2002	DPP	2.8 yr	Diet + exercise vs. Metformin	Decrease, 58% Decrease, 31%
2002	TRIPOD	2.6 yr	Troglitazone	Decrease, 59%
2002	STOP-NIDDM	3.3 yr	Acarbose + Diet	Decrease, 25%
2004	XENdos	4 yr	Xenical + Diet	Decrease, 37%
2006	DREAM	3 yr	Rosiglitazone	Decrease, 60%
2008	ACT NOW*	2-4 yr	Pioglitazone	Decrease, 80%
2010	Navigator	5 yr	Valsartan	Decrease, 14%
2011			Nateglinide	No effect

* Results presented at ADA 2008 Scientific Meeting (unpublished)

How Should Diabetes Prevention be Performed?

“An ailment treatable by
diet alone, should not
be treated otherwise.”

Maimonides

12th Century Philosopher, Jurist, and Physician

Diabetes Prevention: Some Evidence

- Reduced intake of total fat (sat fat)
 - may improve insulin sensitivity and
 - reduce risk for diabetes,
 - independent of weight loss
- Fiber > 50 g/d may have beneficial effects on glycemia, insulinemia and lipemia
- Persons at a high risk of diabetes should be encouraged to achieve USDA recommendation for dietary fiber (14g/1000kcal) and foods containing whole grains (one half of intake = whole grain)

DPP - Lifestyle Modification: Commitment and Effort

■ **Lifestyle Intervention:**

- 16 meetings with case manager during first 6 months, monthly thereafter
- 4-6 week group courses on exercise and weight loss every 3 months
- 2 supervised exercise sessions/week
- Incentives, such as free exercise tapes, club enrollment, low-calorie foods
- Free home visits for counseling

■ **Annual OGTT**

Prevention Strategies

- Follow-up counseling appears to be important for success!
- Patients with IGT or IFG should be referred to an effective ongoing support program for weight loss of 5–10% of body weight and for increasing physical activity to at least 150 min per week (walking).
- Monitoring for the development of diabetes in those with pre-diabetes should be performed every year.

Candidates for Drug Intervention

In addition to lifestyle counseling, metformin may be considered in subjects at very high risk for developing DM:

- IGT or IFG
- A1C 5.7- 6.4%
- Hypertension
- Low HDL cholesterol, elevated triglycerides
- Family history of diabetes
- Obese (esp if BMI >35 kg/m²)
- Under 60 years of age
- Women with prior Gestational Diabetes (pregnancy)

Consider Screening Prior to Exercise

- Screen for micro- and macro-vascular complications that may be worsened
- Exercise Testing with ECG (stress test) when
 - Age >40 years with or without CVD risk factors other than diabetes
 - Age >30 years and
 - Type 2 diabetes duration >10 years
 - Type 1 diabetes duration >15 years
 - Presence of any additional risk factor for CAD
 - Presence of any micro-vascular disease
 - Peripheral vascular disease
 - Autonomic neuropathy

Frequency of Activity

- Recommendations given should include
 - Sessions per day
 - Days per week
- Most people with diabetes should exercise on 3-4 non-consecutive days, up to 5 days per week
 - Obese individuals need 5-7 days/week
- Exercising ≤ 2 days a week
 - Does not result in significant improvements in cardio-respiratory endurance

ADA Standards of Medical Care

- People with diabetes should be advised to perform at least 150 min/week of moderate-intensity aerobic physical activity (50-70% of maximum heart rate)
- In the absence of contraindications, people with type 2 diabetes should be encouraged to perform resistance training three times per week

Moderate Activity

- Brisk walking (3-4 mph)
- Cycling (<10 mph)
- Recreational sports
- Canoeing (leisurely)
- Swimming, moderate
- Dancing
- Golf (not cart)
- Lifting/carrying light objects
- Raking the lawn
- Mowing the lawn
- Gardening



Duration of Activity

- US Dietary Guidelines on Physical Activity
 - Be physically active every day

For health benefits 30 minutes/day

For prevention of weight gain 60 minutes/day

For weight loss maintenance
in formerly obese persons 90 minutes/day

How Should Diabetes Prevention be Performed?

- Lifestyle modification (58% prevention):
 - weight reduction: 5-10% of body weight
 - Increased physical activity: 150 – 180 min/week
- Pharmacological Intervention:
 - Metformin
 - Thiazolidinediones
 - Weight loss drugs: phentermine+topiramate & orlistat
 - Ace-I, ARB

Culture, Behavior and Built Environment
Need to Change If We Are to Stop:
“A tsunami of preventable disease about
to wash over...” our society.

Reed Tuckson, United Healthcare, AHRQ keynote speech
9/2012

Built Environment – Sidewalks?



Case Study Time!

Putting it all into Practice

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.
- Weight is 209 lb and height is 5'11"

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.

- Weight is 209 lb and height is 5'11" BMI=29.1

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.
- Weight is 209 lb and height is 5'11" BMI=29.1
- BP is 142/90 mm Hg
- Pulse is 88 beats per minute (bpm)

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.

- Weight is 209 lb and height is 5'11" BMI=29.1

- BP is 142/90 mm Hg

- Pulse is 88 beats per minute (bpm)

- Moderate central obesity

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.

- Weight is 209 lb and height is 5'11" BMI=29.1

- BP is 142/90 mm Hg

- Pulse is 88 beats per minute (bpm)

- Moderate central obesity

- Fasting cholesterol is 228 mg/dl

- LDL is 166 mg/dl

- HDL is 32 mg/dl

- Triglycerides (TG) are 223 mg/dl

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). In clinic he has no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.

- Weight is 209 lb and height is 5'11" BMI=29.1

- BP is 142/90 mm Hg

- Pulse is 88 beats per minute (bpm)

- Moderate central obesity

- Fasting cholesterol is 228 mg/dl

- LDL is 166 mg/dl

- HDL is 32 mg/dl

- Triglycerides (TG) are 223 mg/dl

*Fasting glucose is 114 mg/dl

48-year-old Hispanic man, was seen in the primary care clinic for routine follow-up of hypertension, for which he had been treated for the past 8 years. His only medication was lisinopril, 20 mg/day. Home blood pressure monitoring averaged 128/82 mmHg. He had a family history for hypertension, type 2 diabetes, and coronary artery disease.

He reported:

- 20-lb weight gain over the past year, with a sedentary lifestyle
- Nonsmoker
- Waist size of 42 inches
- BMI of 34 kg/m²
- Blood pressure of 125/80 mmHg

A subsequent lipoprotein profile demonstrated:

- Low HDL cholesterol (30 mg/dl)
- High triglyceride level (185 mg/dl)
- LDL was mildly elevated (132 mg/dl),
- Total cholesterol was 199 mg/dl

*Fasting glucose was 111 mg/dl, with a repeat value of 115 mg/dl one week later.

A 31-year-old Hispanic male with no significant past medical history is referred by his workplace to a primary care physician for an elevated blood pressure (BP). He presents to the clinic with no complaints. His mother and grandmother both have diabetes, and his father has hypertension.

He has had:

- 15-pound (lb) weight gain over the last year and has become more sedentary.
- BP is 142/90 mm Hg
- Pulse is 88 beats per minute (bpm)
- Weight is 209 lb and height is 5'11"

On examination he displays:

- Moderate central obesity
- Fasting cholesterol is 228 mg/dl
- LDL is 166 mg/dl
- HDL is 32 mg/dl
- Triglycerides (TG) are 223 mg/dl

*Fasting glucose is 114 mg/dl



Georgia Department of Public Health

Pre-Diabetes: How to Delay the Progression to Diabetes



Presentation to: Georgia Healthcare Professionals

Presented by: Dwana "Dee" Calhoun, MS, CHES

Date: Health Systems Project Director
August 22, 2014

We Protect Lives.



Georgia Diabetes Prevention and Control Program



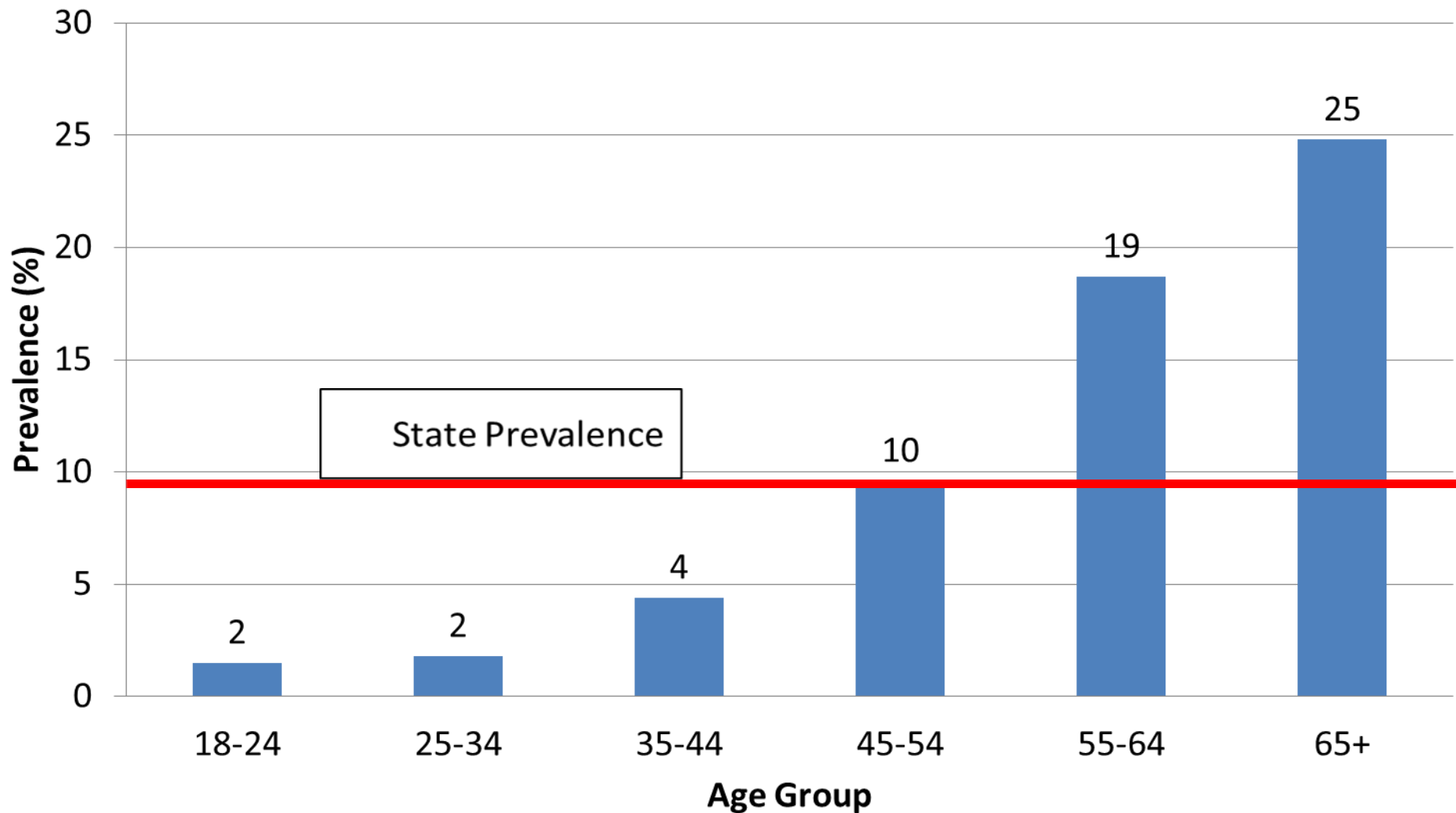
Mission

Protecting and preserving the eyes, hearts, kidneys and feet of Georgians living well with diabetes, prediabetes, and gestational diabetes.

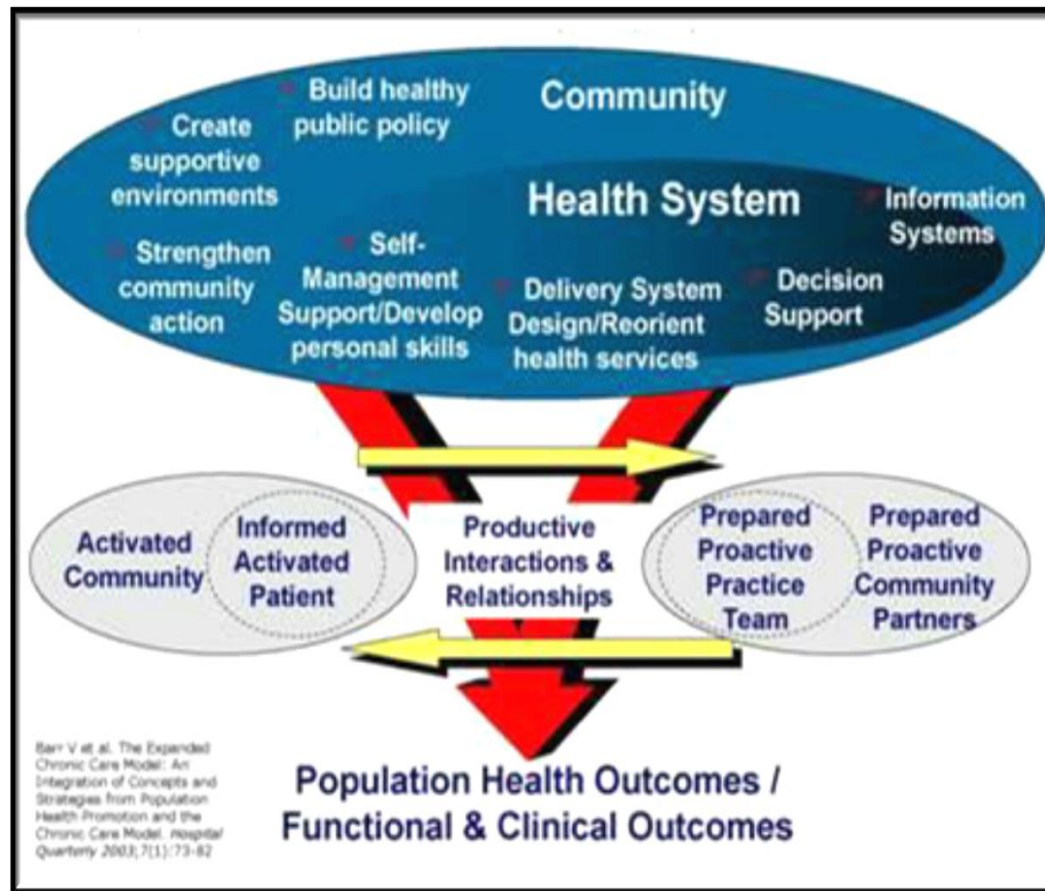
Vision

Georgians living well, free of diabetes and its complications, with increased access to quality-oriented diabetes care and healthier options where they live, work, play and learn.

Figure 1. Prevalence of Diabetes among Adults 18 years and older by Age Group, Georgia, 2011



Expanded Chronic Care Model



Elimination of health disparities related to diabetes prevalence, disability, morbidity and mortality.

Relevant Healthy People 2020 Objectives: Diabetes (D)

D (Diabetes)-16

Increase prevention behaviors in persons at “high” risk for diabetes who are diagnosed with prediabetes.

D (Diabetes)-16.1

Increase the proportion of persons at “high” risk for diabetes who are diagnosed with prediabetes who report increasing their levels of physical activity.

D (Diabetes)-16.2

Increase the proportion of persons at “high” risk for diabetes who are diagnosed with prediabetes who report that they are trying to lose weight.

Teachable Moments: Identifying Additional Opportunities for Patient Engagement

Prediabetes Diagnosis

Every Visit

Maintain
Recommended
Testing

Assess
Medication
Compliance

Manage
Co-morbid
Conditions

Assess for Tx &
Referral
Challenges

Every Visit

Family History-
Medical

Reduce
Lifestyle Risk
Factors

Patient History-
Medical

Review Plan of
Care (POC)
Goals



NWS (Nutrition and Weight Status)-6

Increase proportion of physician office visits that include counseling or education related to nutrition or weight.

Additional Resources

Diabetes is a serious and costly disease that affects both genders and crosses cultural, sociodemographic, and geographical boundaries.

In 2012, approximately
9.9%, or 734,800, Georgia adults were diagnosed with diabetes.¹¹



2013 Diabetes Self-Management Report



Diabetes-Related Complications among Older Adults

Nationally, older adults with diabetes have the highest rates of major lower-extremity amputation, visual impairment, end-stage renal (kidney) disease and heart conditions such as myocardial infarction (MI) of any age-group.¹⁷ Normal aging and diabetes, and conditions such as functional and cognitive impairments that impair function are associated with a higher risk of falls and fractures. A potential cause of functional impairment in diabetes may include interaction between coexisting medical conditions, peripheral neuropathy, vision and hearing difficulty, and gait (walking) and balance problems.¹⁷

Moreover, peripheral neuropathy, present in 50–70% of older patients with diabetes, increases the risk of postural instability, balance problems, and muscle atrophy, limiting physical activity and increasing the risk of falls.¹⁷ Older adults are at high risk for the development of type 2 diabetes due to the combined effects of increasing insulin resistance and other impaired functions associated with aging.¹⁷

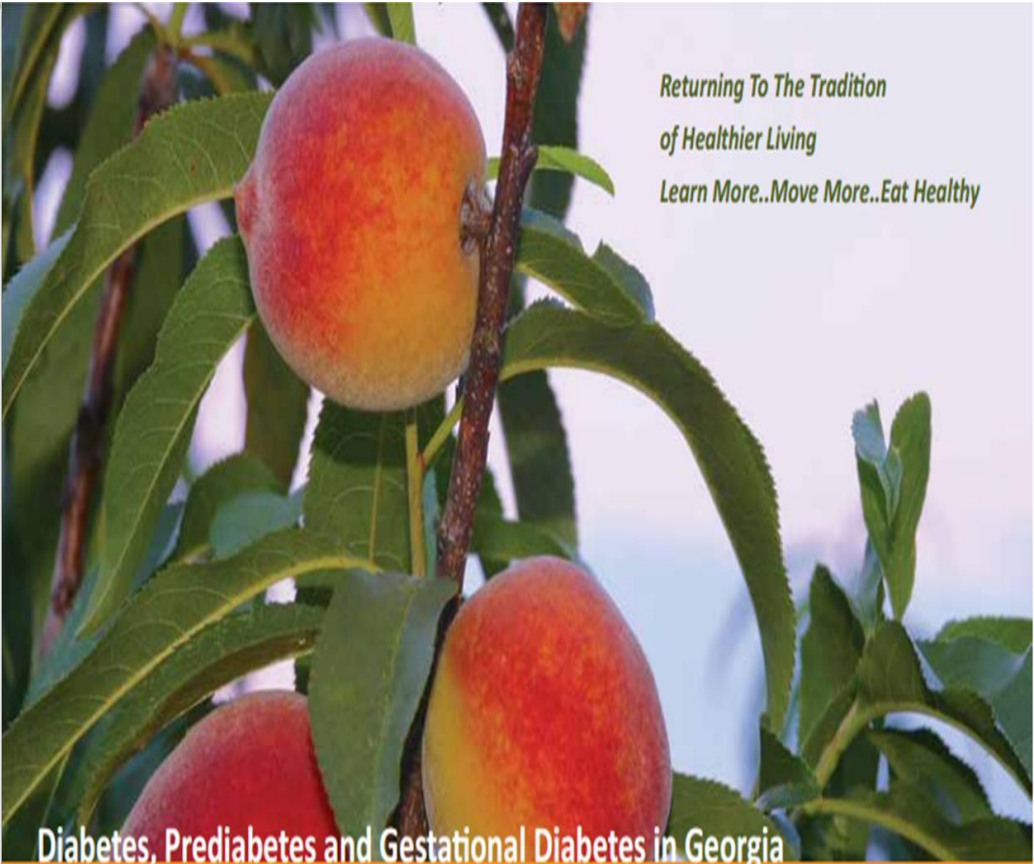
We Protect Lives.

Additional Resources



2014 Georgia Diabetes Community Resource Guide

*Featuring Diabetes and Chronic Disease
Self-Management Education Programs, Care and
Support Resources For Georgians with Diabetes,
Prediabetes and Gestational Diabetes Mellitus (GDM)*



*Returning To The Tradition
of Healthier Living
Learn More..Move More..Eat Healthy*

Diabetes, Prediabetes and Gestational Diabetes in Georgia

This Georgia Diabetes Community Resource guide provides a general listing of services and resources for Georgians diagnosed with diabetes, prediabetes (also known as borderline diabetes) or gestational diabetes mellitus (GDM), their loved ones as well as healthcare and public health professionals providing care and support to them.

Prepared by: Georgia Diabetes Prevention and Control Program

We Protect Lives.



Upcoming Opportunities for Georgia's Healthcare & Public Health Professionals

We Protect Lives.



Georgia Diabetes Self- Management Education (DSME) Learning & Sustainability Network

We Protect Lives.



Scholarships:

Certified Diabetes Educators (CDE)- Exam Fee for clinicians (*including pharmacists*)

Medication Therapy Management (MTM) Certificate Training Program for Registered Pharmacists



ADA Recommendations
(2014):
Refer patients with
prediabetes to an
ongoing lifestyle change
or self-management
program with follow-up
counseling.



Georgia Diabetes Prevention Program (DPP) Learning & Sustainability Network



Scholarships:

Diabetes Prevention
Program (DPP) Lifestyle
Coach

Diabetes Prevention
Program (DPP) Master
Trainer (Select)

Prediabetes: Additional Resources

For Organizations: National Diabetes Prevention Recognition Program (DPRP)

<http://www.cdc.gov/diabetes/prevention/recognition/>

For Professionals: Diabetes Prevention Program (DPP) Lifestyle Coach Training (English/Spanish)

http://www.tacenters.emory.edu/focus_areas/diabetes/lifestyle_coach_training.html

For Professionals: Diabetes Prevention Program (DPP) Master Trainer (Select) Program:

http://www.tacenters.emory.edu/news_events/news/MasterTrainerInstitute.html

Medicare Diabetes Screening Project:

<http://www.screenfordiabetes.org/>

Contact Information

Dwana "Dee" Calhoun, MS, CHES
Health Systems Project Director
Health Promotion and Disease Prevention Section
Office of Prevention, Screening and Treatment
O: 404-657-0603
E-mail address: dwcalhoun@dhr.state.ga.us

Georgia Diabetes Prevention and Control Program
2014 Georgia Diabetes Community Resource Guide
2013 Georgia Diabetes Self-Management Report and other reports
Diabetes Prevention and Management Resources
<http://dph.georgia.gov/>

THANK YOU!!!

Thank you for attending the webinar "Pre-Diabetes: How to Delay the Progression to Diabetes." Please access the survey to obtain credit . The link will be posted in the chat box to the left.

<https://www.surveymonkey.com/s/N5Y76ZJ>

Your comments are vital to the success of the program.

Britt Rotberg, MS, RDN, LD, CDE
404-616-7417
diabetescourse@emory.edu