Diabetes Boot Camp – Class 1

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www.DiabetesEd.net

Important Stuff

‣ Welcome to our First Boot Camp ever
‣ We will meet for 5 consecutive Thursdays – from 11:30am to 1pm
‣ I will stay after the program to answer any questions "off – line"
‣ The course will be recorded and available for viewing within 4 hours of completion of the session
‣ Login to the Online University to hear the recorded version, take the quiz and get your CEs
‣ Please email us with any questions or concerns at Lainey@diabetesed.net

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Getting Ready to take CDE Exam

‣ Recorded Webcast
‣ Online Courses
‣ Take as many practice tests as possible
‣ Study what you DON'T know
‣ Keep it Positive

‣ But MOST important

‣ Remember the Journey

Overview of CDE Exam

‣ Composed of 200 multiple-choice, objective questions with a total testing time of four (4) hours.

‣ Based on job analysis completed in 2013, which surveyed diabetes educators about the tasks they performed.

‣ Spring test takers won't get results for 8 wks

Definition of Diabetes Self-Management Education (DSME)

• Health professionals who have appropriate credentials and experience

• It involves person with prediabetes or diabetes, caregivers and educator

• Defined as ongoing process of facilitating the knowledge, skill, and ability necessary for self-care.

Definition of DSME (cont'd)

‣ Is a component of a comprehensive plan of diabetes care.

‣ Incorporates needs, goals and life experiences and is guided by evidence-based standards.

‣ Goal is to support
  ‣ informed decision-making,
  ‣ self-care behaviors,
  ‣ problem-solving and
  ‣ active collaboration with health care team to improve clinical outcomes, health status, and quality of life.

Exam Details

‣ Questions are linked directly to a task or tasks.

‣ Each question is designed to test if the candidate possesses the knowledge necessary to perform the task or has the ability to apply it to a job situation.

‣ 25 of the 200 questions are new - but are **not** counted in the determination of individual examination scores.

What to Study?

Articles to Review

*ADA-Standards of Care PDF – This yearly publication by the American outlines the goals of care for diabetes management. Since it is evidenced useful summary of the trials and research that the goals are based on. A entering the diabetes field or preparing to take the CDE® or BC-ADM Exa

*AACE Comprehensive Diabetes Management Algorithm 2013. A si the ACE/AACE Statement by an American Association of Clinical Endocri College of Endocrinology Consensus Panel on Type 2 Diabetes Mellitus. planning to take CDE exam to review this info carefully.

*The Scope of Practice, Standards of Practice, and Standards of P Performance for DiabetesEducators (2011). Chicago, Il. American As: Educators – a must read for anyone entering the field of diabetes or as a already in the field.

*Download CDE Examination Content Outline from NCBDE Handbook

*Screening and Diagnosis of Diabetes Mellitus 2014 - At a glance su risk factors and diagnostic criteria for diabetes. A great tool for your pract with providers.

DiabetesEd.net>Resources

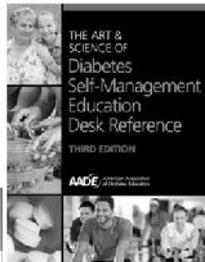## AADE – The Art and Science of Diabetes Self Management Education – 3rd Ed

New Art and Science

Our Price: $229.00

Both Books for $279

Includes 400 questions

‣ 200 in book,
‣ 200 computer based

DiabetesEd.net>Books and Study

Diabetes - More than Hyperglycemia

‣ Discuss the epidemiology of diabetes.
‣ Describe the pathophysiology of diabetes and insulin resistance
‣ State the diagnosis and risk factors for type 2 diabetes.
‣ List the goals of care
‣ Discuss treatment strategies

Global Epidemic

‣ Every 10 seconds
  ‣ 1 person dies with diabetes
  ‣ 2 people develop diabetes
‣ Every year
  ‣ 3 million deaths
  ‣ 6 million new cases
‣ World Diabetes Day is November 14
‣ March is ADA Sound the Alert Day "find people w/ undetected diabetes"

CDC Announces

35% of Americans will have Diabetes by 2050

Boyle, Thompson, Barker, Williamson
2010, Oct 22:8(1)29
www.pophealthmetrics.com

Diabetes in America 2014

‣ 29 million or > 9.3%
‣ 27% don't know they have it
‣ 37% of US adults have pre diabetes

Diabetes

| 1994 | 2000 | 2009 |

No Data | <4.5% | 4.5-5.9% | 6.0-7.4% | 7.5-8.9% | ≥9.0%

CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at http://www.cdc.gov/diabetes/statistics

CDC

Diabetes Education SERVICES

Age-adjusted Diabetes Prevalence
20 yrs or older, by race/ethnicity— U.S. 20014

Age-adjusted* percentage of people aged 20 years or older with diagnosed diabetes, by race/ethnicity, United States, 2010–2012

Non-Hispanic whites	7.6
Asian Americans	9.0
Hispanics	12.6
Non-Hispanic blacks	13.2
American Indians/Alaska Natives	15.9

*Based on the 2000 U.S. standard population.
Source: 2010-2012 National Health Interview Survey and 2012 Indian Health Service's National Patient Information Reporting System.

- Among Hispanic adults, the age-adjusted rate of diagnosed diabetes was 8.5% for Central and South Americans, 9.3% for Cubans, 13.9% for Mexican Americans, and 14.8% for Puerto Ricans.
- Among Asian American adults, the age-adjusted rate of diagnosed diabetes was 4.4% for Chinese, 11.3% for Filipinos, 13.0% for Asian Indians, and 8.8% for other Asians.
- Among American Indian and Alaska Native adults, the age-adjusted rate of diagnosed diabetes varied by region from 6.0% among Alaska Natives to 24.1% among American Indians in southern Arizona.

Diabetes Education SERVICES

BMI Cutoff for Diabetes Risk Differs based on Ethnicity

‣ Ethnicity   BMI Cut-off
  ‣ South Asians   24 kg/m²
  ‣ Chinese   25 kg/m²
  ‣ African American   26 kg/m²
  ‣ Whites   30 kg/m²

$$BMI = \left(\frac{Weight\ in\ Pounds}{(Height\ in\ inches) \times (Height\ in\ inches)} \right) \times 703$$

Diabetes Education SERVICES

32% of Medicare dollars go to Treat diabetes.

- **2012 - Total cost of diabetes $245 billion**
  - **Indirect costs:** $69 billion (disability, work loss, premature mortality)
- People with diabetes had 2-4 x's greater medical expenditures

- The largest components of medical expenditures are:
  - 43% - hospital inpatient care
  - 18% - prescription meds to treat complications
  - 12% - diabetes meds supplies
  - 9% - physician office visits
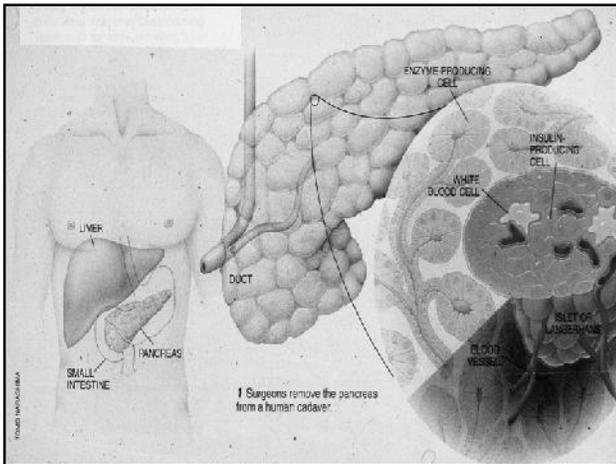 - 8% - nursing/residential facility stays
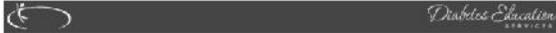
Pancreas – Hormones that lower BG

Beta Cells - Insulin

Anabolic hormone - helps store glucose as glycogen in muscle, liver
- secreted in response to elevated glucose
- halts breakdown of glycogen in liver
- increases protein synthesis, fat storage
- powerful hypoglycemic

Beta Cells - Amylin
- secreted in 1:1 ratio with insulin
- Causes satiety
- Lowers post-prandial glucagon response
- Slows gastric emptying
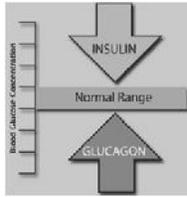- Type 1 make none
- Type 2 make less than normal amounts

Pancreas – Hormone Raises BG

Alpha cells - Glucagon

Opposes action of insulin at the liver

- stimulated in response to low glucose levels
- stimulates liver to convert glycogen to glucose
- inhibits liver from glucose uptake
- causes hyperglycemia

Hormones Effect on Glucose

Hormone	Effect
‣ Glucagon (pancreas)	
‣ Stress hormones (kidney)	
‣ Epinephrine (kidney)	
‣ Insulin (pancreas)	
‣ Amylin (pancreas)	
‣ Gut hormones - incretins (GLP-1) released by L cells of intestinal mucosa, beta cell has receptors)	

Signs of Diabetes

‣ Polyuria	➡ Glycosuria, H_2O losses
‣ Polydipsia	➡ Dehydration
‣ Polyphasia	➡ Fuel Depletion
‣ Weight loss	➡ Loss of body tissue, H_2O
‣ Fatigue	➡ Poor energy utilization
‣ Skin and other infections	➡ Hyperglycemia increases incidence of infection
‣ Blurry vision	➡ Osmotic changes

Natural History of Diabetes

Normal	Prediabetes	Diabetes
FBG <100	**FBG 100-125**	**FBG 126 +**
Random <140	**Random 140 - 199**	**Random 200 +**
A1c <5.7%	**A1c ~ 5.7- 6.4%**	**A1c 6.5% or +**
	50% working pancreas	**20% working pancreas**

Yes! NO

Development of type 2 diabetes happens over years or decades
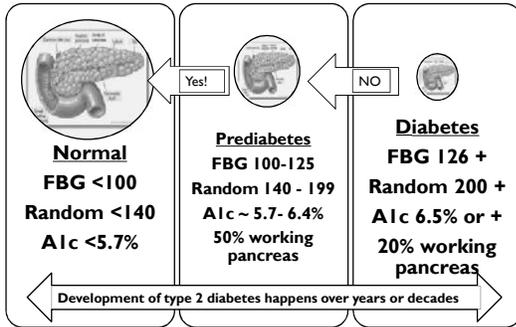
Diagnostic Criteria

- ‣ All test should be repeated in the absence of unequivocal hyperglycemia
- ‣ If test abnormal, repeat same test to confirm diagnosis on a different day
- ‣ If one test normal, the other abnormal, repeat the abnormal test to determine status
- ‣ Medicare still using fasting as criteria for reimbursement for education

What Kind of Diabetes?

AJ, a 22 year old female admitted to the ICU with a blood glucose of 476 mg/dl and a pH of 7.1.

- ‣ What further questions and or testing is needed to determine if patient has type 1 or type 2 diabetes?

Type 1 Diabetes

Type 1 Diabetes Facts

- As many as **3 million Americans** may have type 1 diabetes.
- Each year, approximately **80 people per day** are diagnosed with type 1 diabetes in the U.S.
- Approximately **85 percent** of people living with type 1 diabetes are adults, and **15 percent** are children.
- The rate of type 1 diabetes incidence among children under age 14 is estimated to **increase by 3 percent annually** worldwide.
- Type 1 diabetes accounts for **$14.9 billion** in healthcare costs in the U.S. each year.

Source: JDRF

Type 1 Rates Increasing Globally

- 23% rise in type 1 diabetes incidence from 2001-2009
- Why?
  - Autoimmune disease rates increasing over all
  - Changes in environmental exposure and gut bacteria?
  - Hygiene hypothesis
  - Obesity?

Incidence of Type 1 in Youth

- **General Pop 0.3%**
- **Sibling 4%**
- **Mother 2-3%**
- **Father 6-8%**
- Rate doubling every 20 yrs
- Many trials underway to detect and prevent (Trial Net)

Type 1 – 10% of all Diabetes Genetics and Risk Factors

- Auto-immune pancreatic beta cells destruction
- Most commonly expressed at age 10-14
- Insulin sensitive (require 0.5 - 1.0 units/kg/day)

- Combo of genes and environment:
  - Autoimmunity tends to run in families
  - Higher rates in non breastfed infants
  - Viral triggers: congenital rubella, coxsackie virus B, cytomegalovirus, adenovirus and mumps.

Type 1 Diabetes – Genetics and Risk Factors

- Combo of genes and disease susceptibility
- Risk Factors:
  - Autoimmunity tends to run in families
  - Higher rates in non breastfed infant
  - Viral triggers: congenital rubella, coxsackie virus B, cytomegalovirus, adenovirus and mumps.
- Living longer (avg age expectancy 68.5)

How do we know someone has Type 1 vs Type 2?

- Type 1
  - Positive antibodies
    - GAD
    - ICA
    - IAA and others
- Younger people develop quickly
- Older people take longer to develop
- Body wt and presentation

Autoantibodies Assoc w/ Type 1

Panel of autoantibodies –

- GAD65 - Glutamic acid decarboxylase –
- ICA - Islet Cell Cytoplasmic Autoantibodies
- IAA - Insulin Autoantibodies

Type 1 Diabetes Associated with other immune conditions

- Celiac disease (gluten intolerance)
- Thyroid disease
- Addison's Disease
- Rheumatoid arthritis
- Other

How to Get Screened?
www.DiabetesTrialNet.org

▸ **How to get families linked to screening?**

Information for Healthcare Professionals

About TrialNet

TrialNet Progress Report 2011 [pdf]

How to Refer Patients

Join TrialNet

Links

Handouts for Patients

Peer Reviewed and Published Articles

Our Investigators

Refer a Patient

Patients can complete the online screening.

Patients can call toll free anytime:

1 - 800 - HALT - DM1 (1-800-425-8361)

contact one of our participating centers.

Sign up for the TrialNet Newsletter! Learn More >

AJ – Next Steps?

For AJ, a 22 year old newly diagnosed with T1DM

1. What baseline lab work, tests does she need?

2. What referrals?

Diabetes Education SERVICES

Diabetes Lab Evaluation - ADA

Test	Frequency
▸ A1c	Dx and 2-4 x's a yr
▸ Fasting lipid profile	Dx and Annually
▸ Microalbuminuria	Dx and annually
▸ Creatinine / GFR	Dx and Annually
▸ Thyroid Stimulating Hormone	Dx and Annually
(type 1 over 50, hyperlipidemia, women >50)	
▸ Screen for Celiac Disease	Type 1 Dx, repeat prn
▸ Liver function test	Annually

ADA Clinical Practice Recommendations   Diabetes Education SERVICES

Comprehensive Diabetes Evaluation – Referrals - ADA

- ‣ Annual dilated eye exam
- ‣ Family planning women of reproductive age
- ‣ Registered Dietitian for MNT
- ‣ Diabetes Self-Mgmt Program
- ‣ Dental exam
- ‣ Mental Health Professional, if needed

ADA Clinical Practice Recommendations

Type 1 Summary

- ‣ Autoimmune pancreatic destruction
- ‣ Need insulin replacement therapy
- ‣ Often first present in DKA
- ‣ At risk for other autoimmune diseases

Patti Labelle "divabetic" -- that's a mix of diabetic and diva

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BMI – Visual Image
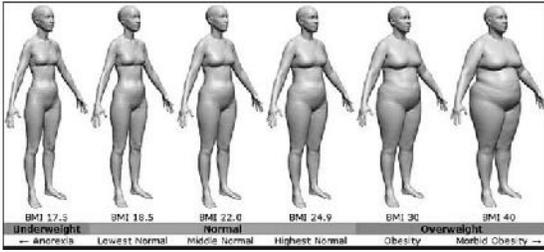
Bariatric Surgery

▸ Consider on diabetes pts w/ BMI >35, esp with comorbidities

▸ Remission (BG normalized)
  ▸ rates range from 40 – 95%
  ▸ Better results with newer diabetes (more beta cell mass)
  ▸ Due to increase incretins (gut hormones)

▸ Still researching long term benefits, cost effectiveness and risk

Diabetes 2 - Who is at Risk?
(ADA Clinical Practice Guidelines)

1. Testing should be considered in all adults who are overweight (BMI $\geq$ 25) and have additional **risk factors**:

   ▸ First-degree relative w/ diabetes
   ▸ Member of a high-risk ethnic population
   ▸ Habitual physical inactivity
   ▸ PreDiabetes
   ▸ History of heart disease

Diabetes 2 - Who is at Risk?
(ADA Clinical Practice Guidelines)

Risk factors cont'd

- HTN - BP > 140/90
- HDL < 35 or triglycerides > 250
- baby >9 lb or history of Gestational Diabetes Mellitus (GDM
- Polycystic ovary syndrome (PCOS)
- Other conditions assoc w/ insulin resistance:
  - Severe obesity, acanthosis nigricans (AN)

Acanthosis Nigricans (AN)

- Signals high insulin levels in bloodstream
- Patches of darkened skin over parts of body that bend or rub against each other
  - Neck, underarm, waistline, groin, knuckles, elbows, toes
  - Skin tags on neck and darkened areas around eyes, nose and cheeks.
- No cure, lesions regress with treatment of insulin resistance

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What is Type 2 Diabetes?

- Complex metabolic disorder ….
  (Insulin resistance and deficiency)

with social, behavioral and environmental risk factors unmasking the effects of genetic susceptibility.

New Diagnosis?
Call 800 – DIABETES to request "Getting Started Kit"
www.Diabetes.org

Natural Progression of Type 2 Diabetes

Plasma Glucose

Postprandial glucose

126 mg/dL

Fasting glucose

Relative ß-Cell Function

Insulin resistance

Insulin secretion

-20 -10 0 10 20 30

Years of Diabetes

Prior to diagnosis   After diagnosis
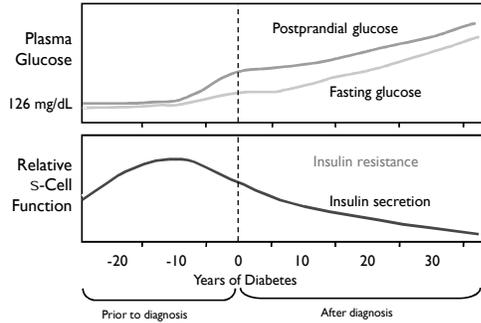
Adapted from Bergenstal et al. 2000; International Diabetes Center.

Diabetes Education

Ominous Octet

Decreased satiation neuro-transmission

Decreased amylin, β-cell secretion 80% loss at dx

Decreased Gut hormones

Increased lipolysis

Increase glucose production

Decreased glucose uptake

Diabetes Education
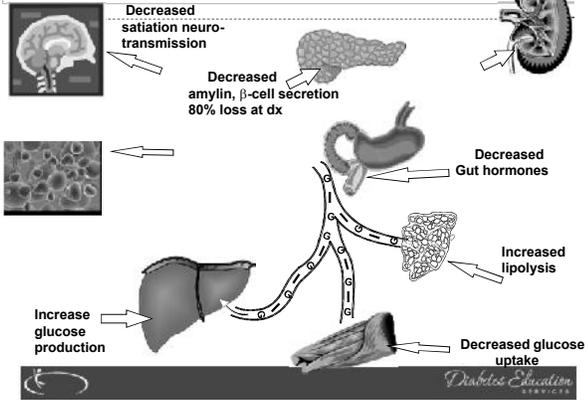
Comparison of Type 1, Type 2, LADA

	Type 1	Type 2	LADA
Obesity	x	xxx	x
Insulin dependence	xxx	30%	6mos
Respond to oral agents	0	xxx	x
Ketosis	xxx	x	x
Antibodies present	xxx	0	xx
Typical Age of onset	teens	adult	adult
Insulin Resistance	0	xxx	x

Diabetes Education

Diabetes is also associated with

▸ Fatty liver disease
▸ Obstructive sleep apnea
▸ Cancer; pancreas, liver, breast
▸ Alzheimer's
▸ Depression

Other Types of Diabetes

▸ Gestational
▸ Other specific types of diabetes

Gestational DM ~ 7% of all Pregnancies

▸ GDM prevalence increased by
  ▸ ~10–100% during the past 20 yrs
▸ Native Americans, Asians, Hispanics, African-American women at highest risk
▸ Immediately after pregnancy, 5% to 10% of GDM diagnosed with type 2 diabetes
▸ Within 5 years, 50% chance of developing DM in next 5 years.

Increasing Prevalence –
A public health perspective

‣ Body weight before and during pregnancy influences risk of GDM and future diabetes
‣ Children born to women with GDM at greater risk of diabetes
‣ Focus on prevention

Diabetes in pregnant mothers associated with …

‣ Offspring
  ‣ Fetal Complications
  ‣ Obesity and diabetes later in life
‣ Mother
  ‣ More complicated pregnancy and delivery
  ‣ Diabetes later in life

‣ Intrauterine environment is important

Screen Pregnant Women
Before 13 weeks

‣ Screen for undiagnosed Type 2 at the first prenatal visit using standard risk factors.
‣ Women found to have diabetes at their initial prenatal visit treated as "Diabetes in Pregnancy"
‣ If normal, recheck at 24-28 weeks

GDM Criteria - 2 Options
"1 Step" – 75 gm OGTT

‣ 24-28 weeks
‣ OGTT in am after overnight fast of 8 or > hrs
‣ **GDM Diagnosis if ANY** of the following values met or exceeded:

‣ <u>FBG</u>   <u>1 HR</u>   <u>2HR</u>
‣ ≥92   or   ≥180   or   ≥153

Based on Hyperglycemia and Adverse Pregnancy Outcomes Study - IADPSG

GDM Criteria – Option 2
"NIH 2 step"

‣ Step 1
  ‣ 50 gm Oral Glucose Tolerance Test (non-fasting)
  ‣ If BG 140* at 1 hour proceed to Step 2
‣ Step 2 – 100 gm Oral Glucose Tolerance (fasting)
  ‣ **GDM Diagnosis if 2** values are met or exceeded

	Carpenter/Coustan	or	NDDG
● Fasting	95 mg/dL (5.3 mmol/L)		105 mg/dL (5.8 mmol/L)
● 1 h	180 mg/dL (10.0 mmol/L)		190 mg/dL (10.6 mmol/L)
● 2 h	155 mg/dL (8.6 mmol/L)		165 mg/dL (9.2 mmol/L)
● 3 h	140 mg/dL (7.8 mmol/L)		145 mg/dL (8.0 mmol/L)

NDDG, National Diabetes Data Group. *The American College of Obstetricians and Gynecologists (ACOG) recommends a lower threshold of 135 mg/dL (7.5 mmol/L) in high-risk ethnic minorities with higher prevalence of GDM; some experts also recommend 130 mg/dL (7.2 mmol/L).

Postpartum after GDM

‣ 50% risk of getting diabetes in 5 years
‣ Screen at 6-12 wks post partum
‣ Repeat at 3 yr intervals or signs of DM
  ‣ Encourage Breast Feeding
  ‣ Encourage weight control
  ‣ Encourage exercise
  ‣ Make sure connected with health care
  ‣ Lipid profile/ follow BP
  ‣ Preconception counseling

Start Metformin therapy

‣ For women with PreDiabetes and History of GDM

Online Courses

‣ Kids
‣ Older Adults
‣ Women

Other Specific Types of DM

‣ Medications such as: steroids, protease inhibitors and Prograf®
‣ Secondary to Agent Orange
‣ Liver failure
‣ TPN or tube feedings
‣ Pancreatic cancers or removal
‣ Cystic fibrosis, pancreatitis
‣ Other

Regardless of the cause, hyperglycemia needs to be treated.

Objectives for Insulin Resistance and Vascular Disease

- Describe the impact of insulin resistance
- State the factors associated with of cardiometabolic risk.
- State strategies to maintain oral health and keep lower extremities healthy

Insulin Resistance is the Seed

Visceral Fat and Subcutaneous Fat
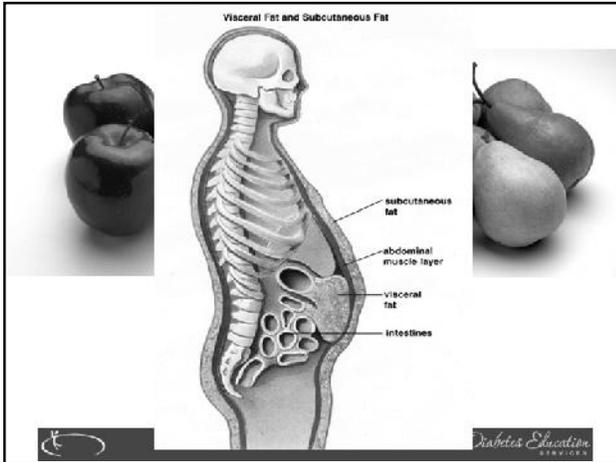
Factors Associated with Insulin Resistance

▸ Abdominal obesity
▸ Sedentary lifestyle
▸ Genetics / Ethnicity
▸ Gestational Diabetes
▸ Polycystic ovary syndrome
▸ Acanthosis Nigricans
▸ Obstructive Sleep Apnea
▸ Cancer

Heart Disease & DM = 3-5xs Risk

▸ CHF
  ▸ 7.9 % w/ diabetes vs.
  ▸ 1.1 % no diabetes
▸ Heart attack
  ▸ 9.8 % w/ diabetes vs.
  ▸ 1.8 % no diabetes
▸ Coronary heart disease
  ▸ 9.1 % w/ diabetes vs.
  ▸ 2.1 % no diabetes
▸ Stroke
  ▸ 6.6 % w/ diabetes vs.
  ▸ 1.8 % no diabetes

▸ 2007 AACE

Vascular Disease & Diabetes *"atheroscleropathy"*

- Normal endothelial cells are protective
- Abnormal glucose = Endothelial cell dysfunction
  - Lower Nitric Oxide levels = Poor vasodilation
  - Release of inflammatory mediators
  - Higher aldosterone levels
  - Adipokines = > angiotensin = HTN
  - = Increased risk of acute thrombotic event
- Increased arterial stiffness
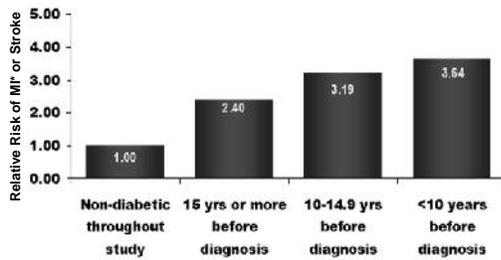 - Due to chronic hyperglycemia, endothelial inflammation

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Risk of CVD Is Elevated prior to Diagnosis of Type 2 Diabetes

Relative Risk of MI* or Stroke

- Non-diabetic throughout study: 1.00
- 15 yrs or more before diagnosis: 2.40
- 10-14.9 yrs before diagnosis: 3.19
- <10 years before diagnosis: 3.64

*MI = myocardial infarction. Nurses Health Study
Adapted from: Hu F, et al. *Diabetes Care*. 2002;25:1129-1134.

CardioVascular Risk Factors

The more risk factors = greater risk of heart disease and diabetes
ADA 2007

- Insulin Resistance Syndrome
- BMI >25 Waist 35" women 40" men
- Smoking Physical Inactivity
- Cardio Metabolic Risk
- Abnormal Lipid Metabolism
- Age, Race Gender, Family hx
- Hypertension
- Inflammation Hyper-coagulation
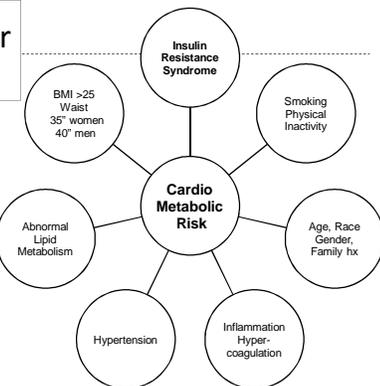
Cardio Metabolic Risk -
5 Hypers -

‣ Hyperinsulinemia (resistance)
‣ Hyperglycemia
‣ Hyperlipidemia
‣ Hypertension
‣ Hyper"waistline"emia (35" women, 40" men)

Manifestations of Insulin Resistance

Bottom Line

‣ Cardiovascular disease is the leading cause of death for people with diabetes
‣ 65% of people with diabetes die from heart disease (36% in general population)
‣ Prevention and aggressive treatment of diabetes is critical

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Vascular Risk Factors

‣ Nonmodifiable
  ‣ Duration of diabetes – longer = more risk
  ‣ Age – older increased risk
  ‣ Gender – women have more CV protection pre-menopause
  ‣ Race – risk varies
  ‣ Genetics – family history

Vascular Risk Factors

▸ Modifiable
  ▸ Blood Pressure
  ▸ Lipids
  ▸ Smoking
  ▸ Obesity
  ▸ Other factors – lack of exercise, Type A personality, dietary habits

Peripheral Vascular Disease – Venous Disease

▸ On exam
  ▸ Skin brownish, reddish, mottled
  ▸ Skin warm to touch, may be edematous
  ▸ May have stasis ulcers on lower leg
  ▸ Pulses difficult to locate due to edema
▸ Treatment
  ▸ Support hose
  ▸ Elevate feed
  ▸ Avoid constriction
  ▸ Shoes that can accommodate feet

Peripheral Arterial Disease (PAD)

▸ Affects 30% of people w/ dm over age 50
▸ Inadequate blood & oxygen to lower extremities
▸ Signifies ↑ risk of stroke, HTN, sudden death
  ▸ Pain w/ walking, relieved by rest "intermittent claudication"
  ▸ Pt c/o pain, cramping in calves, thighs, buttocks
▸ PAD + Neuropathy = increased amputation risk

Peripheral Arterial Disease Intermittent Claudication

- Physical Exam – Skin
  - Pale or blue, purple
  - Dependent rubor, blanching when elevated
  - Cool to touch, loss of hair, nonhealing wounds, gangrenous
  - Diminished pulses
- Treatment = Protect feet
  - Avoid constriction, increase walking, stop smoking, medications and/or surgery

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Profile of a High Risk Foot ADA

- Previous amputation
- Previous foot ulcer history
- Peripheral neuropathy
- Foot deformity
- Peripheral vascular disease
- Vision impairment
- Diabetic neuropathy (esp if on dialysis)
- Poor glycemic control
- Cigarette smoking

Diabetes and Amputations

- Rate declined by 65% from 1996-2008
  - From 11.2 per 1000 to 3.9 per 1000

- Diabetes = 8 fold risk of amputations
- Highest rate in those over 75
- 50% of amputations can be avoided through self-care skill education and early intervention
  - Stats from CDC 2012

No Bathroom Surgery
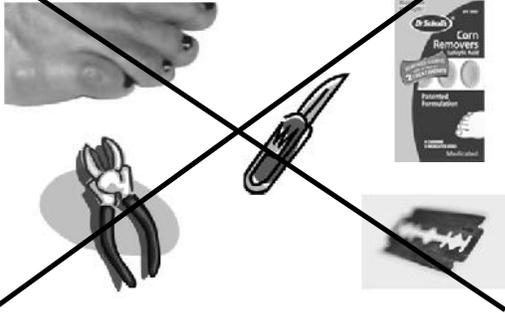
You Can Make A Difference

▸ Assess
  ▸ Nail condition, nail care, inbetween the toes
  ▸ Who trims your nails
  ▸ Have you ever cut your self?
  ▸ Shoes – type and how often
  ▸ Socks
  ▸ Skin/skin care and vascular health
  ▸ Ability to inspect
  ▸ Loss of protective sensation

5.07 monofilament delivers 10gms linear pressure

10 Free Monofilaments
www.hrsa.gov/hansensdisease/leap/

5.07 monofilament delivers 10gms linear pressure

Free Monofilaments
http://www.hrsa.gov/leap/

KEEP THEM
FEELING WONDERFUL
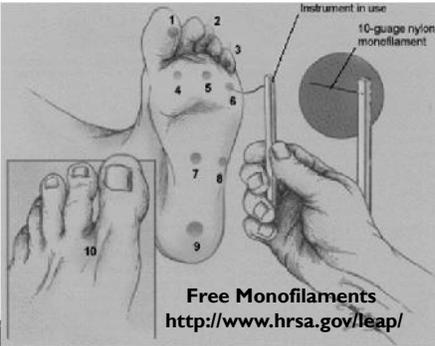
Medicare Pays for Therapeutic Shoes

Under the Therapeutic Shoe Bill, Medicare patients with diabetes are entitled to one pair of shoes and three pairs of orthotic inserts. You are entitled to this benefit every calendar year. We call your doctor and take care of the paperwork too. Our Certified Pedorthists come to your home to ensure a proper fit. All sizes available and many selections to choose from. Call today to get your shoes. Deductible or co-payments may apply. Song as AMDX.

Ohio, Pennsylvania, Western New York, Florida and More.

Three Most Important Foot Care Tips

‣ Inspect and apply lotion to your feet every night before you go to bed.

‣ Do NOT go barefoot, even in your house. Always wear shoes!

‣ Every time you see your doctor, take off your shoes and show your feet. Report any foot problems right away!

Periodontal disease and Heart Disease

- Heart disease link:
    - oral bacteria enter the blood stream, attach to fatty plaques in coronary arteries increasing clot formation
    - inflammation increases plaque build up, which may contribute to arterial inflammation
- Hyperglycemia = Gingivitis = Heart Disease
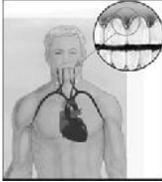
Keeping Oral Healthy

- Oral disease linked with heart disease
- Dental exams (every 6 mo's)
- Metabolic control critical
- Quit smoking
- Pts may not understand importance of dental hygiene.
- Treat infections with ATB'x, can lower A1c by 1-2%. Lowering BG shortens infection.

Thank You