



**Welcome to Diabetes
Mini-Series – Class 4**

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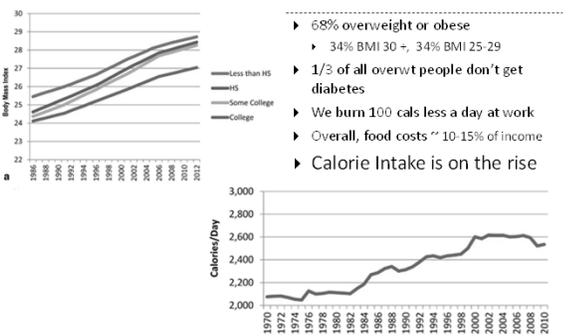
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Diabetes Mini-Series:
Class 4



- ▶ New nutrition guidelines
- ▶ Keeping it real for our patients
- ▶ A quick and effective foot assessment

Obesity in America



- ▶ 68% overweight or obese
- ▶ 34% BMI 30+, 34% BMI 25-29
- ▶ 1/3 of all overwt people don't get diabetes
- ▶ We burn 100 cals less a day at work
- ▶ Overall, food costs ~ 10-15% of income
- ▶ Calorie Intake is on the rise

Average Daily Per Capita Calories Adjusted for Waste. Source: Economic Research Service of the United States Department of Agriculture (USDA) Data System.

Average American Consumes 25 teaspoons of sugar a day (400 cal)

- ▶ Warning label on sodas proposed
- ▶ One soda has 12 teaspoons soda
- ▶ On avg, 1 person consumes 40 gallons of soda each year
- ▶ ADA guidelines "limit sodas and beverages with sugar, High Fructose Corn Syrup, (HFCS)



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Thoughts on Diabetes, Weight, Social Change



▶ "The only way on a societal basis to reduce the prevalence of obesity is through community action" – Dr. Frieden, CDC

- ▶ Obesity (BMI 30+) prevalence 22% to 40%
- ▶ Poverty, Obesity, Diabetes inter-related



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Bigger Meals, Bigger Kids

Bigger Meals, Bigger Kids

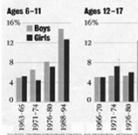
It's hard for children to stay lean when portions keep growing. A look at what Americans are eating, and how it's changing the shape of our bodies:



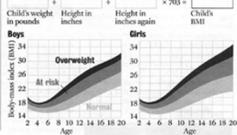
▲ A traditional McDonald's burger with a 16-ounce Cola and a small order of fries carries 627 calories and 19 grams of fat.

▲ Upgrade to a Big Steve® with cheese, and 'super size' the drink and fries. Now your lunch packs calories and 84 grams of fat.

Thinks at any ages: The percentage of American kids who are overweight has more than doubled since the 1960s.



Is your child overweight? To find out, calculate the child's BMI and plot it by age on one of the two graphs below.



Birth of a nation: In 1991, only four states had obesity rates over 14 percent. By 1996, 32 had hit that threshold.



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Weight and Gut Bacteria New and Early Research

- ▶ Lower levels among obese and DM patients compared with healthy controls of:
 - ▶ *Firmicutes*: 4% lower in obese patients, 13% lower in DM
 - ▶ *Bifidobacteria*: 14% lower in obese patients, 28% lower DM
 - ▶ *Clostridium Leptum*: 14% lower in obese patients, 11% lower DM
- ▶ Based on prospective study involving:
 - ▶ 27 morbidly obese pts with mean BMI of 40
 - ▶ 26 pts with new type 2 – BMI 29
 - ▶ 28 healthy controls (mean BMI 23 kg/m²).
- ▶ “The human gut microbiome consists of some 100 trillion bacteria, or some 100 trillion friends you didn’t know you had.”
 - ▶ Yalcin Basaran, MD, presented at [International Endocrine Meeting](#)



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Free Live Webinars and Live Seminars at DiabetesEd.net

- ▶ Free Webinars
 - ▶ Preparing to take CDE
 - ▶ New Frontiers
 - ▶ New Medications
 - ▶ BC-ADM



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Medical Nutrition Therapy – ADA 2014 Updates



- No ideal percentage of calories from protein, carbohydrate and fat for people with diabetes.
- Macronutrient distribution should be based on an *individualized assessment* of eating patterns, preferences and metabolic goals.



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Other Nutrition Updates

- ▶ Sodium – Try and keep less than 2,300 mg a day
- ▶ Vitamin and mineral supplements not recommended -lack of evidence.
- ▶ Fat - same as recommended for general population
 - ▶ Less than 10% saturated fat,
 - ▶ Limit trans fats
 - ▶ Less than 300 mg cholesterol daily
 - ▶ Mediterranean Diet looks like good option
- ▶ Fiber 25 -38 gms a day



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Medical Nutrition Therapy – ADA 2014

- ▶ Focus on the Individual
- ▶ Maintain pleasure of eating
- ▶ Provide positive messages about food
- ▶ Limit food choices only when backed by science
- ▶ Provide practical tools
- ▶ Refer to a RD and Diabetes Education – Lowers A1c by 1-2%



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Approach Depends on Patient

- New Type 2
 - Portion Control
 - Plate Method
 - Record Keeping
 - Education
- On Insulin?
 - Carb counting
 - Post prandial checks



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Losing 2-8kg Early in diagnosis Type 2 Helpful

ADA 2014

- ▶ Weight Loss –
 - ▶ The optimal macronutrient intake to lose weight not known
 - ▶ The literature does not support one particular nutrition therapy to reduce weight, but rather a spectrum of eating patterns that result in reduced energy intake.

- ▶ To lose one pound – avoid 3,500 cal
 - ▶ Decrease intake 250-500 cal daily + exercise



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Successful weight loss strategies include

- ▶ Weekly self-weighing
- ▶ Eat breakfast
- ▶ Reduce fast food intake.
- ▶ Decrease portion size
- ▶ Increase physical activity
- ▶ Use meal replacements
- ▶ Eat healthy foods



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Diabetes Prevention Program Focus on fat = wt loss success

To help you lose weight and improve your health, stay as close as possible to your fat and calorie goals. Find your starting weight below. Your fat and calorie goals are in the same row. Circle your fat and calorie goals.

Weight (lb)	Fat Goal (grams)	Calorie Goal
120-174	33	1,200
175-219	42	1,500
220-249	50	1,800
>250	55	2,000

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



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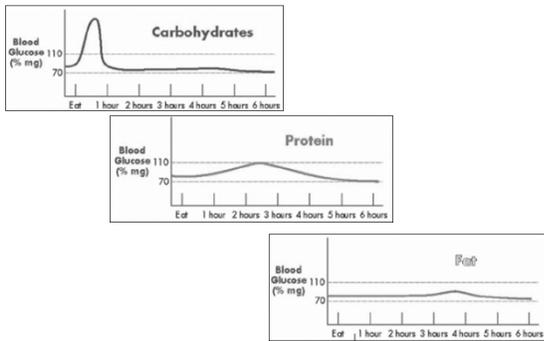
Public Health Issue?

- ▶ 66% of our people are obese/overweight
- ▶ Rates of gestational diabetes on rise
- ▶ 30% of kids are obese/overweight



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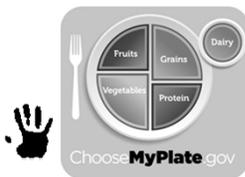
How nutrients affect blood sugar



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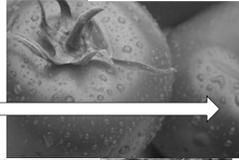
Teaching About Eating Healthy

- Major food groups
 - “Handy Diet”
 - Plate Method
 - Exchange Lists
 - Food Diaries / Glucose Records
 - Carbohydrate Counting
- Assess what is best for the situation.*



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Move toward the Tomato



ADA recommendation Eat Less Junk Food & Sugary Drinks –

- ▶ Less Processed Foods
- ▶ Less Sugary Beverages
 - ▶ increase visceral adiposity
 - ▶ With sugar or
 - ▶ High fructose corn syrup



- ▶ Soda Tax?
- ▶ Junk Food Tax?



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10 Superfoods

- | | |
|----------------------------|------------------------------------|
| ▶ Beans | ▶ Tomatoes |
| ▶ Dark Green Leafy Veggies | ▶ Fish High in Omega-3 Fatty Acids |
| ▶ Citrus Fruit | ▶ Whole Grains |
| ▶ Sweet Potatoes | ▶ Nuts |
| ▶ Berries | ▶ Fat-Free Milk and Yogurt |



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USDA Food Pyramid

www.myplate.gov



Balancing Calories

- ▶ Enjoy your food, but eat less.
- ▶ Avoid oversized portions.

Foods to Increase

- ▶ Make half your plate fruits and vegetables.
- ▶ Make at least half your grains whole grains.
- ▶ Switch to fat-free or low-fat (1%) milk.

Foods to Reduce

- ▶ Compare sodium in foods like soup, bread, and frozen meals — and choose the foods with lower numbers.
- Drink water instead of sugary drinks.



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Another plate example

Mi planificador de plato

Una comida saludable sabe buenísima



El Método del Plato es una manera simple de planificar las comidas para usted y su familia. No necesita contar nada ni hacer largas listas de alimentos. Todo lo que necesita es un plato de 9 pulgadas.



1/4 de proteína, 1/4 de almidón, 1/2 de vegetales. Plato de 9 pulgadas

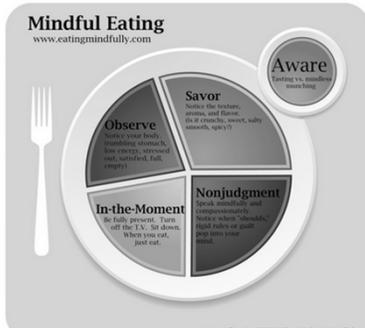


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Mindful Eating

Mindful Eating

www.eatingmindfully.com



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Choose Healthy Carbs

- o Carbs have fiber, vitamins, minerals and phytonutrients
- o 25 gms of fiber a day
- o Power Carbs include:
 - o Beans
 - o Veggies
 - o Fruits
 - o Whole grain foods



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Handy Meal Plan

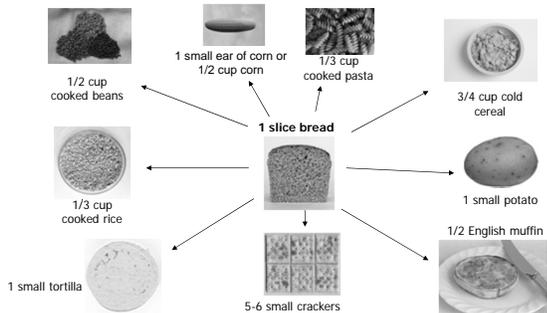
- ▶ Per Meal Serving
 - ▶ Each finger = 15 gms carb (can have 3-4 servings/meal)
 - ▶ Palm of hand = 3 oz's protein
 - ▶ Thumbnail = 1 tsp fat serving



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Carb Counting - Starch

Each Food has:
80 Calories
15 grams carb



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Carb counting- fruit

Each Food has:
60 Calories
15 grams carb

1 slice bread

- 1 small fresh fruit
- 1/2 cup fruit juice
- 1/2 banana
- 1/2 cup unsweetened apple sauce
- 17 small grapes
- 1 cup melon
- 1/4 cup dried fruit
- 2 tsp raisins
- 1 1/4 cup strawberries

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Carb Counting - Milk

Each Food has:
90-150 calories
12-15 grams carb

1 slice bread

- 8 oz buttermilk
- 1 packet diet hot cocoa
- 6 oz plain yogurt
- 8 oz milk
- 8 oz soy milk
- 6 oz light fruit yogurt

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Carb Counting - Sweets

Each Food has:
Calories vary
15 grams carb

1 slice bread

- 2 inch square cake or brownie, unfrosted
- 1/2 cup diet pudding
- 1/2 cup regular jello
- 2 tsp light syrup
- 2 small cookies
- 1/2 cup ice cream or frozen yogurt
- 1/2 cup sherbet
- 1/4 cup sorbet
- 1 tbsp syrup, jam, jelly, table sugar, honey

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Go Lean with Protein

- Choose lean protein
 - Poultry, fish, egg, lean beef
 - Plant sources- beans, lentils, nuts
 - Low fat cheese- cottage cheese, mozzarella cheese
- Limit high fat protein
 - Bacon & sausage
 - High fat cuts of beef
 - Whole milk cheese
- Serving size
 - 1 oz = ¼ cup
 - 3 oz = deck of cards



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Fats- Aim for heart health

- **Saturated fats (LIMIT)**
 - Solid
 - Animal
 - Tropical (palm, coconut)
 - Trans fats (deep fried)
- **Monounsaturated**
 - Olive & canola oils
 - Nuts
 - Avocado
- **Polyunsaturated**
 - veg oils: canola, corn, walnut, safflower, soybean



- Serving sizes
- 1 tsp butter, margarine, oil, mayonnaise
 - 1 Tbsp salad dressing, cream cheese, seeds
 - 2 Tbsp avocado, cream, sour cream
 - 1 slice bacon



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Using Alcohol Safely

- ▶ Women- 1 or fewer alcoholic drinks a day
- ▶ Men 2 or fewer alcoholic drinks a day
 - ▶ 1 alcoholic drink equals
 - ▶ 12 oz beer, 5 oz glass of wine, or 1.5 oz distilled spirits (gin etc)
- ▶ If drink, limit amount and drink w/ food.
- ▶ Ask HCP if safe for you to drink. Tell them your usual quantity and frequency.
- ▶ Can cause hypo and worsen neuropathy



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Ms. Gonzales' Daily Meal plan

Break	Lunch	Dinner	Night
5 corn tortillas, 1/2 c. beans, salsa, peppers, egg beaters	Sandwich, low fat potato chips, 1c. juice, 2-4 lowfat cookies	Lg bowl low salt soup, 1c. rice, BBQ meat, salad & cooked vevs 1 glass wine	1 bowl of cereal
Avg BG 120's	Avg BG 200's	Avg BG 200's	Avg BG 180's



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Resources

- ▶ www.eatright.org American Dietetic Association website for nutrition information, resources, and access to Registered Dietitians
- ▶ www.diabetes.org American Diabetes Association website, advocates to prevent, cure and improve the lives of all people affected diabetes
- ▶ www.americanheart.org American Heart Association website; resources, recipes and tips; learn about efforts to reduce death caused by cardiovascular disease
- ▶ www.dce.org/publications/education-handouts/



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Resources

- ▶ www.nhlbi.nih.gov contains information for professionals and the general public about heart and vascular diseases, lung diseases, blood diseases.
- ▶ www.niddk.nih.gov National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) information and resources clearinghouse.



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Mr. Jones - What are Your Recommendations?

Patient Profile

64 yr old with type 2 for 11 yrs. Hx of CVD.

Labs:

- ▶ A1c 9.3%
- ▶ HDL 37 mg/dl
- ▶ LDL 114 mg/dl
- ▶ Triglyceride 260mg/dl
- ▶ Proteinuria - neg
- ▶ B/P 142/92

Self-Care Skills

- ▶ Walks dog around block 3 x's a week
- ▶ Bowls every Friday
- ▶ 3 beers daily
- ▶ Widowed, so usually eats out
- ▶ 15 lbs overweight
- ▶ *My foot hurts*



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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 feet
- ▶ Avoid constriction
- ▶ Shoes that can accommodate feet



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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

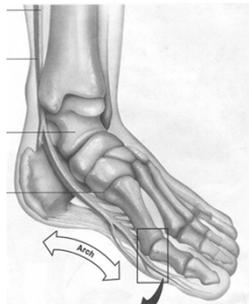
- ▶ Physical Exam – Skin
 - ▶ Pale or blue, purple
 - ▶ Dependent rubor, blanching when elevated
 - ▶ Cool to touch, loss of hair, nonhealing wounds, gangrenous
 - ▶ Diminished pulses
- ▶ Treatment = Protect feet
 - ▶ Avoid constriction, increase walking, stop smoking, medications and/or surgery



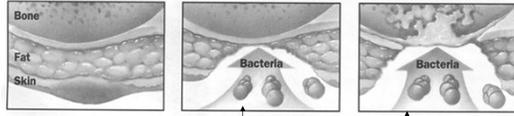
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Healthy Foot

- ▶ Nerves
- ▶ Blood vessels
- ▶ Bones
- ▶ Joints



Foot Wounds



Blisters
Infection
Calluses

Ulcers

Bone

Diabetes and Amputations

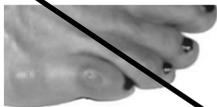
- ▶ Diabetes = 8 fold risk of amputations
- ▶ Highest rate in those over 75
- ▶ 50% of amputations can be avoided through self-care skill education and early intervention
- ▶ Rate declined by 65% from 1996-2008
 - ▶ From 11.2 per 1000 to 3.9 per 1000

Stats from CDC 2012



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No Bathroom Surgery



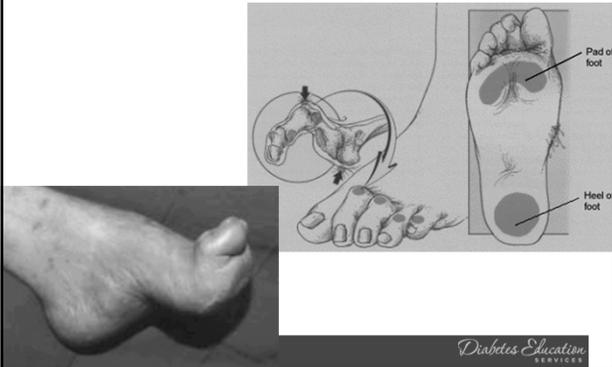
Profile of a High Risk Foot ADA

- ▶ 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



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Foot Deformities



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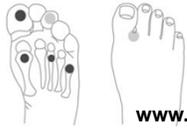
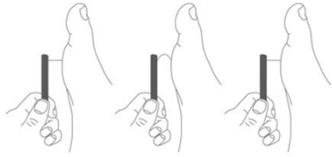
You Can Make A Difference

- ▶ Assess
 - ▶ Nail condition, nail care, in between 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



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5.07 monofilament delivers 10gms linear pressure



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



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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!



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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. Sorry, no HMO's.

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



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Thank You



- ▶ Questions?
- ▶ Email
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- ▶ Web
www.diabetesed.net



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