

# Dangerously Sweet

Diabetes, Part 2

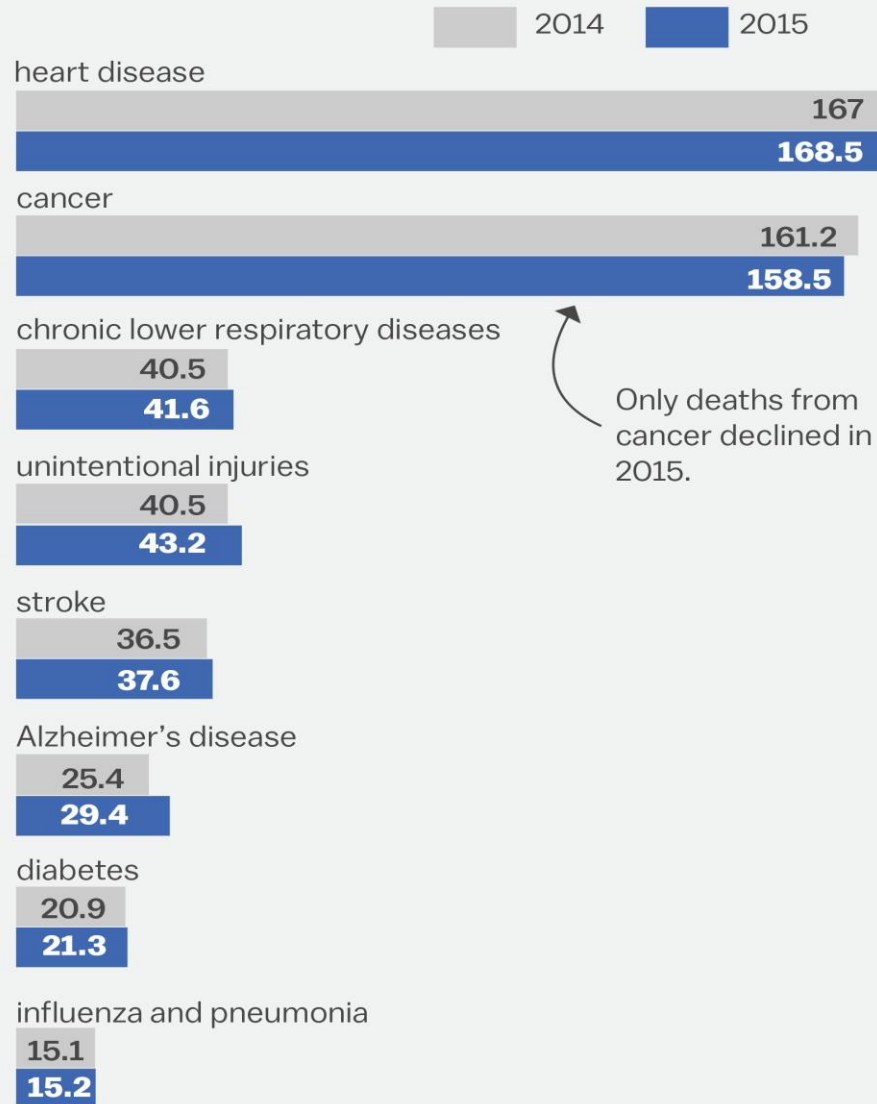
# Heb 2:1-3

- Therefore we must give the more earnest heed to the things we have heard, lest we drift away.
- For if the word spoken through angels proved steadfast, and every transgression and disobedience received a just reward,
- How shall we escape if we neglect so great a salvation, which at first began to be spoken by the Lord, and was confirmed to us by those who heard him



# Only one major cause of death in the US saw a decline in 2015

Rate of death for every 100,000 people



- **Prevalence:** In 2015, 30.3 million Americans, or 9.4% of the population, had diabetes. ( about 1 in 10 people)
  - Approximately 1.25 million American children and adults have type 1 diabetes.
  
- **Undiagnosed:** Of the 30.3 million adults with diabetes, 23.1 million were diagnosed, and 7.2 million were undiagnosed (about 1/4 do not know)



# What is Diabetes

- **Diabetes mellitus:** -- a chronic disease associated with abnormally high levels of the sugar glucose in the blood.

## Ps 139: 14

- I will praise You; for I am fearfully and wonderfully made; Marvelous are Your works; and that my soul knows very well.

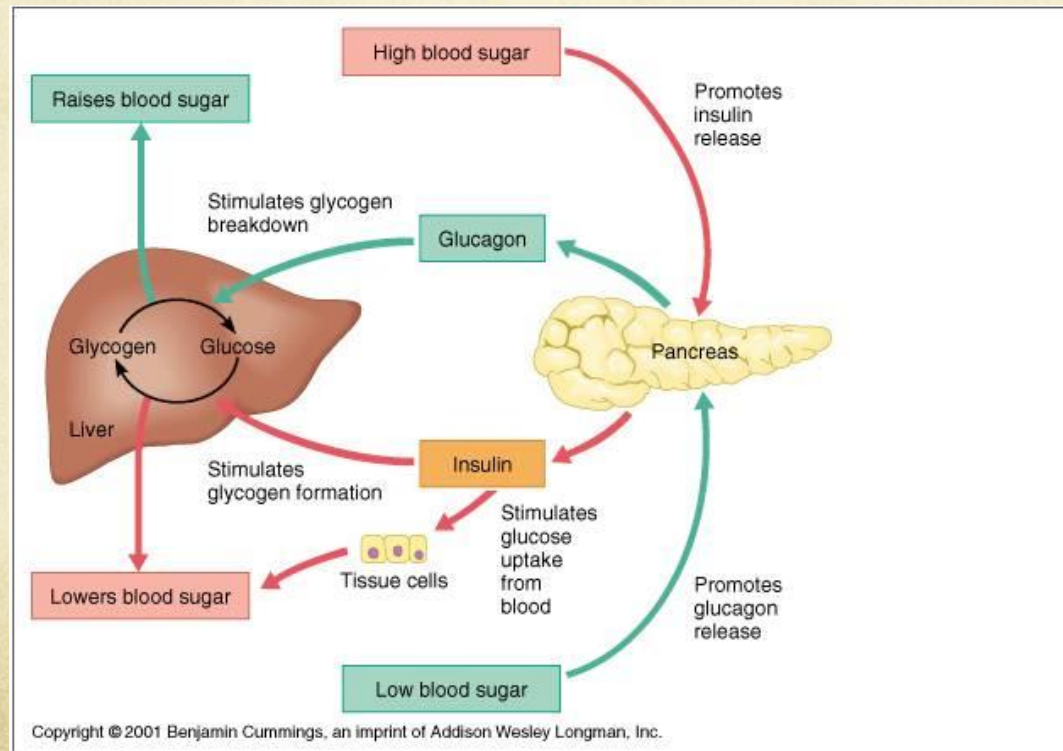


# Risk Factors

- Weight – the higher the weight the more likely the body develops resistance to insulin
- Inactivity – the less active higher the risk
- Family history – tends to run in the family
- Race – African Americans, Hispanics, Native Americans or Asian Americans are at higher risk.
- Age – incidence increases with age
- Gestational diabetes – women that have had gestational diabetes at at a higher risk
- Hypertension – people with blood pressure over 140/90 are at increase risk for diabetes
- Abnormal cholesterol and triglyceride – low level of HDL (good cholesterol) and high triglycerides have a high risk for diabetes.

# Types of diabetes

- Diabetes melitus type I
- Diabetes melitus type II





# Goal for blood sugar levels

- Normal blood sugar is 70-120. This is the ideal state for the body.
- For people with diabetes the goal is to keep blood sugar:
  - 70-130 before meals
  - 180 2 hours after the meal
  - never under 70 and
  - Hemoglobin A1C under 7%

# Hypoglycemia

- Possible life threatening low BG, usually below 70 with symptoms
- Some symptoms: shaky, sweaty, anxious, hungry, weakness, dizziness, and even passing out
- Usually caused by not enough food or too much medication.
- Require immediate intervention and treatment with quick acting sugar and BG recheck in 15 min.

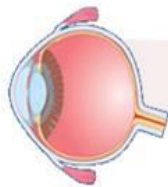


# Complications

**Diabetes is a lifelong condition associated with serious complications**

## Diabetic Retinopathy

Leading cause of blindness in adults<sup>1,2</sup>



## Diabetic Nephropathy

Leading cause of endstage renal disease<sup>3,4</sup>



## Diabetic Neuropathy

Leading cause of non-traumatic lower extremity amputations<sup>5,8</sup>



## Stroke

2- to 4-fold increase in CV mortality and stroke<sup>5</sup>



## Cardiovascular Disease

8/10 individuals with diabetes die from CV events<sup>6</sup>



## Psalm 139:14

○ I will praise You; for I am fearfully and wonderfully made; Marvelous are Your works; and that my soul knows very well.



# What to do

- Eat healthy
- Take the right amount of medication,
- Test your blood sugar and keep a record,
- Follow a regular exercise plan,
- Follow the sick day guidelines when ill.

# Notify physician

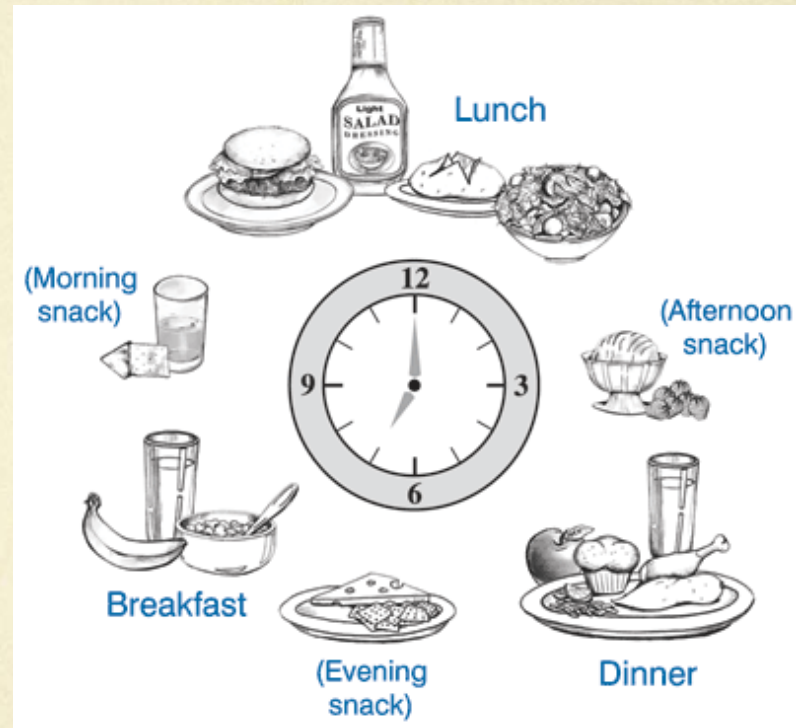
- if BG is low two or more times in one week
- if BG greater than 250 for 3-4 days.





# Nutrition guidelines

- people with diabetes to have 3 balanced meals at regular intervals (4-5 hr) with an evening snack at bed time, other recommend 2-3 snacks



# Nutrition guidelines

- Eat starchy foods regularly
- Eat more fruits and vegetables
- Reduce fat
- Cut down on sugar – concentrated sweets
- Reduce salt
- Combine carbohydrate rich foods with protein rich food
- The amount of carbohydrate eaten at each meal should be about the same each day.
- Follow proper portion size

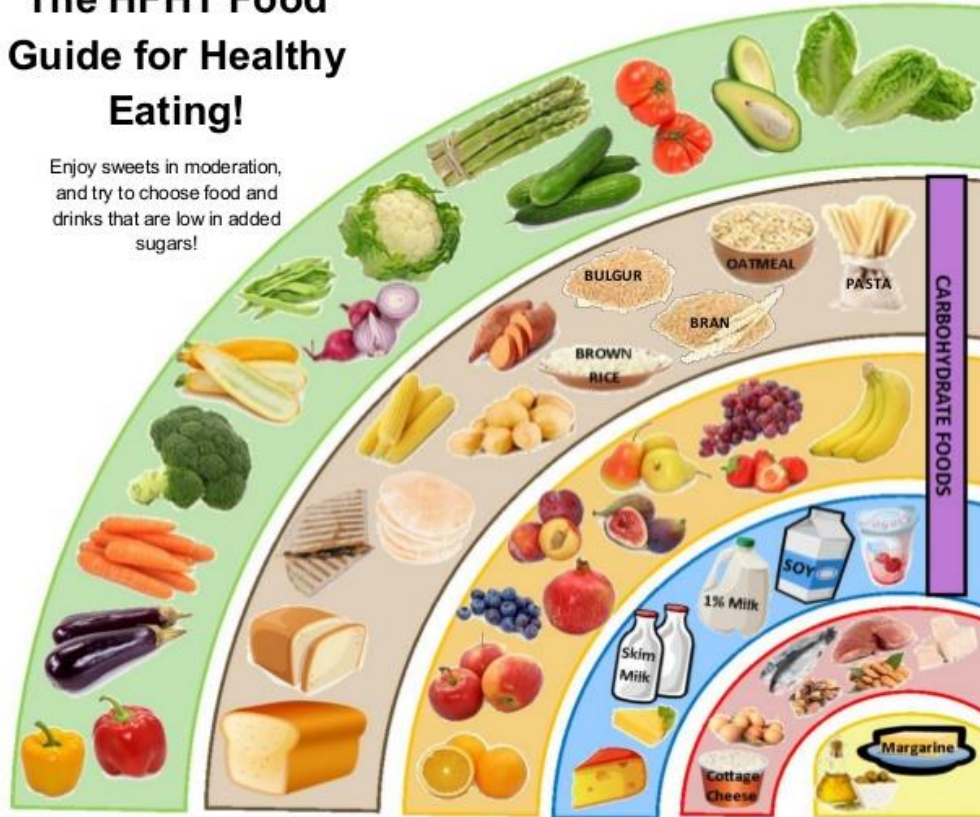


# Nutrition guidelines

- Foods rich in carbohydrates –
  - starchy foods (bread, crackers, cereal, rice),
  - fruits and fruit juice,
  - milk and yogurt,
  - dry beans and soy,
  - starchy vegetables (potatoes and corn),
  - sweets
  - snack foods

# The HFHT Food Guide for Healthy Eating!

Enjoy sweets in moderation, and try to choose food and drinks that are low in added sugars!



## Vegetables

Choose dark green and orange more often

## Grains & Starches

Choose more whole grains

## Fruits

Choose a variety of colourful fruit

## Milk & Alt.

Choose low fat dairy products

## Meat & Alt.

Choose lean meats, poultry, fish & beans

## Fats & Oils

Choose fats from nuts and vegetable oils

FIBRE

PROTEIN

CARBOHYDRATE

FATS





# Nutrition guidelines

## How to "CARB" with diabetes

It's as easy as 1-2-3

**1 How to read a food label for diabetes:**

- Where are carbs on the food label?
- A "one carb" serving = 15 grams of total carbohydrate
- Keep saturated fat and sodium to 5% of the daily value or less
- Keep trans fat to 0 grams
- Good source of fiber = 10% or more of daily value

**2 What is a "one carb" serving?**

Follow the

**GRAINS:**

- 1 slice of bread
- 1/2 bagel or bun
- 1/2 cup oatmeal
- 1 pancake
- 1/3 cup cooked pasta or rice

**STARCHY VEGGIES:**

- 1/2 cup starchy veg like peas, legumes or corn
- 1 cup winter squash
- 1 cup vegetable soup
- 1/2 baked potato

**DAIRY:**

- 1 cup skim milk or yogurt

**FRUIT:**

- 1 small piece
- 1/2 cup to 1 1/2 cups cubed fruit
- 1/2 cup canned fruit in juice
- 1/3 to 1/2 cup juice

\* Values for 1/2 cup of fruit or juice



**3 Build a diabetes healthy plate:**

About 40 - 45 g of carbs per meal\* (without memorizing every food) - here's how:

- 1/4 the plate brown rice (1/2 cup) = 22 g carb
- 1/2 the plate with nonstarchy veg = 7 g carb
- 1/4 the plate lean protein plus fruit salsa 2 tablespoons = 2 g carb
- 1 cup yogurt or skim milk = 12 g carb

\* Average amount; you should ask your dietitian for the amount that is right for you.

**Nutrition Facts**  
Serving Size 1/4 cup (36g)  
Servings Per Container: 9

Amount per serving	Calories 60	Calories from Fat 0	% Daily Value
Total Fat 0g			0%
Saturated Fat 0g			0%
Trans Fat 0g			
Cholesterol 0mg			0%
Sodium 15mg			1%
Total Carbohydrate 22g			7%
Dietary Fiber 14g			56%
Sugars 1g			
Protein 7g			
Vitamin A 0%	Vitamin C 0%		
Calcium 4%	Iron 15%		

- Carbohydrate counting
- Each 15 grams of carb = 1 carbohydrate choice.
- Each meal should have between 3-5 carbohydrate choices.

1 **Start Here** →

# Nutrition Facts

Serving Size 1 cup (228g)  
Servings Per Container 2

2 **Check Calories**

**Amount Per Serving**  
**Calories** 250      **Calories from Fat** 110

3 **Limit these Nutrients**

	<b>% Daily Value*</b>
<b>Total Fat</b> 12g	<b>18%</b>
Saturated Fat 3g	<b>15%</b>
<i>Trans</i> Fat 3g	
<b>Cholesterol</b> 30mg	<b>10%</b>
<b>Sodium</b> 470mg	<b>20%</b>
<b>Total Carbohydrate</b> 31g	<b>10%</b>
Dietary Fiber 0g	<b>0%</b>
Sugars 5g	
<b>Protein</b> 5g	
Vitamin A	<b>4%</b>
Vitamin C	<b>2%</b>
Calcium	<b>20%</b>
Iron	<b>4%</b>

4 **Get Enough of these Nutrients**

5 **Footnote**

\* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

		Calories: 2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

6

## Quick Guide to % DV

- 5% or less is Low
- 20% or more is High



# diabetes portion plate



add a  
8oz. glass  
of non-fat or  
low-fat milk



add a piece of fruit or a  
1/2 cup of fruit salad



# TIPS

- Grains/Starchy Vegetables/Legumes, Fruits and Milk/Yogurt Groups contain carbohydrates. Eat consistent amounts of carbohydrate at meals and snacks to control blood glucose levels.
- Most people need 3-4 carbohydrate choices at breakfast, lunch, and dinner.
- Non-starchy vegetables contain small amounts of carbohydrate. Protein and fat don't contain carbohydrates.
- Snacks generally provide 1-2 carbohydrate choices, with or without lean protein or nuts.



# Diabetes MYPLATE

## DAIRY

Get your calcium-rich foods



- Choose fat-free or low-fat milk or yogurt.
- Choose calcium-fortified juices, cereals, and breads if you can't eat dairy products.

## FRUITS

Focus on fruits

- Choose fruit over juice.
- Select canned fruits in 100% juice or water, not syrup.



## STARCHY VEGETABLES GRAINS | LEGUMES

Make half your grains whole

- Substitute a whole-grain product for a refined one.
- Try brown rice or whole-wheat pasta.
- Choose foods that list a whole grain first on the label - color is not an indication.
- Add barley, bulgur or quinoa to soups, stews and casseroles.
- Use dry beans or peas in meals.



## VEGETABLES

Vary your veggies

- Buy fresh vegetables in season - keep frozen on hand, too.
- Plan meals around a vegetable main dish, such as a vegetable stir-fry.
- Keep cut-up vegetables in a see-through container in the refrigerator.
- Shred carrots or zucchini into meatloaf, casseroles, and quick breads.



## PROTEIN

Go lean with protein

- Start with lean choices, and remove visible fat and skin.
- Use fish and poultry more often.
- Add nuts to salads or main dishes as a substitute for meat.



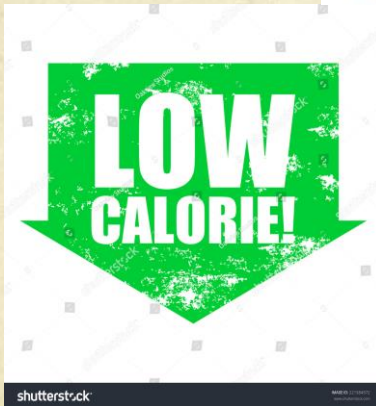
Cut back on foods high in solid fats, added sugars, and salt

{ Be physically active your way }

Pick activities that you like and start by doing what you can, at least 10 minutes at a time. Every bit adds up, and the health benefits increase as you spend more time being active.



# Beaware!







# Oral medication

- 1 - medication that decrease the amount of sugar that liver releases into blood like: Metformin or Glucophage and related meds.
- 2 - medication that help pancreas to release more insulin like: glyburide, glipzide, glimiperide and their brand name

# Insulin

- short acting - starts working within 30 min and effects last up to 3-4 hr. Usually given with each meal and at bedtime
- long acting - slowly acting covering body's needs for 24 hr. Given once usually at night
- Mixed - depending on the combination given 2-3 times a day





# Testing blood sugar



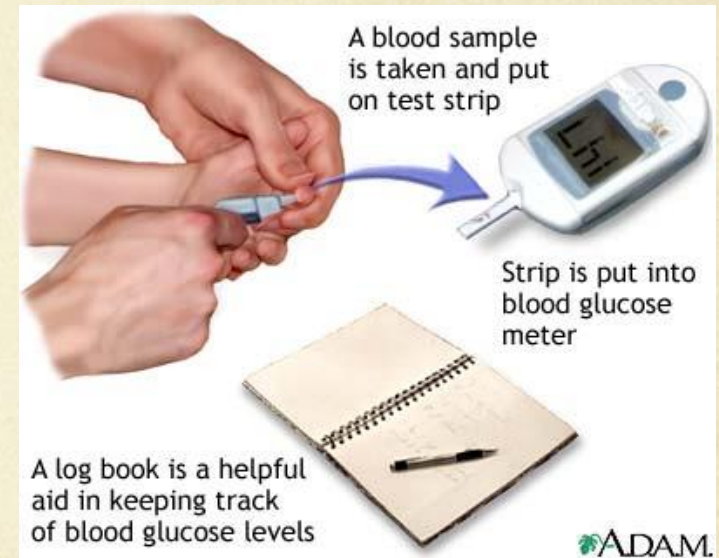
## Guidelines for Children and Adolescents With Type 2 Diabetes: Blood Glucose Testing (2 of 2)

Blood glucose goal: 70-130 mg/dL for most patients

	Frequency of BG testing
Newly diagnosed type 2 diabetes	Before meals (including morning fasting), at bedtime until metabolic control is achieved Adjust frequency once target met
Taking single insulin daily injection and oral agents	Single bedtime long-acting insulin: daily fasting BG measurements Oral agents: determine per clinical context; increase during illness or symptoms of hyperglycemia, hypoglycemia Oral agent + single injection of long-acting insulin: 2x/day (fasting + second test)
Receiving multiple daily insulin injections	Before every meal

# Testing blood sugar

- Know your blood sugar by testing
- Keep a record of your blood sugar
- Notify physician if blood sugar is greater than 250 for 3-4 days or less than 70 more than 2 times in one week.
- Goal: keep blood sugar under control





# Sick days

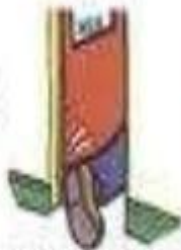
## DIABETES MELLITUS

### Sick day rules:

- Take insulin or oral hypoglycemics as usual.
- Check blood glucose Q 3-4 hrs. If  $> 300$ , call MD.
- Small frequent meals, 6-8 times/day.
- If vomiting/diarrhea persist, take liquids Q 1/2-1 hr to prevent dehydration.
- For patients with type 1 diabetes, inability to retain fluids may require hospitalization



EXTREME THIRST



FREQUENT URINATION



DRY SKIN



HUNGER



BLURRED VISION



DROWSINESS

# When sick...

- Let your primary physician know if:
  - cannot take the DM meds,
  - Have severe vomiting or diarrhea for 4-6 hours or
  - you are sick for more than 24 hr without signs of improvement.





# Exercise

- exercise = free medicine
- it is the most underused medicine in America.



# Exercise

## **How Does Exercise Help Control Type 2 Diabetes?**

- ✓Lowers blood glucose levels quickly
- ✓Improves the body's ability to use insulin
- ✓Reduces insulin requirement
- ✓Better control of diabetes
- ✓Reduces the risk of heart disease





# Exercise

- Check with your doctor when to start, where to start, and what is the best exercise regimen for you
- Start slowly and gradually increase the amount of activity
- Always carry something to treat low BG
- Wear good fitting supportive shoes with thick socks to prevent unnecessary injury to feet
- Stay hydrated by drinking sugar free, caffeine free liquids  
AKA water

It's **NOT** that I  
**CAN'T** eat that.

I'm making the  
*healthier choice*  
not to.

[ChattingOverChocolate.com](http://ChattingOverChocolate.com)





# Matthew 25:23

- Well done good and faithful servant; you have been faithful over a few things, I will make you a ruler over many things. Enter into the joy of your Lord