



Nutrition Basics, Part II

Eat-Think-Grow

Garden Based Nutrition Education

Hawaii Island School Garden Network

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HEART HEALTH



- **Blood Pressure**
- **Cholesterol**

Today's Agenda

- What do the numbers mean?
 - Cholesterol – Total, LDL, HDL, triglycerides
 - Blood Pressure
- How can one improve blood pressure and cholesterol readings?
 - **Diet**
 - **Exercise**
 - **Other lifestyle changes**

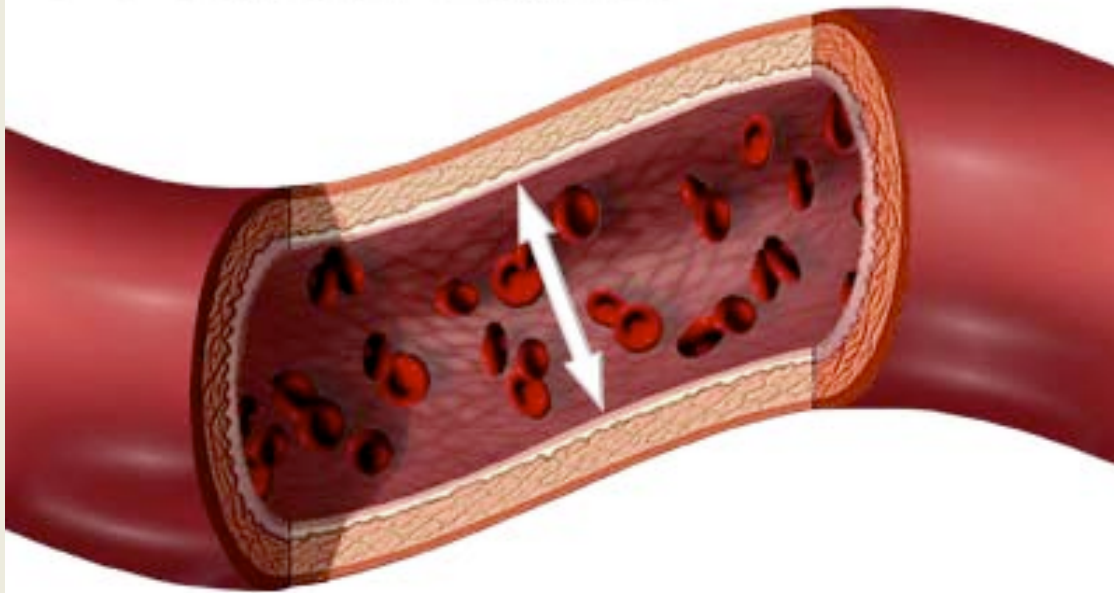
**What are the symptoms of
high blood pressure and high
cholesterol?**

There are usually

NO SYMPTOMS!

What is blood pressure and cholesterol?

Blood pressure is the measurement of force applied to artery walls



LDL (bad cholesterol) levels may build 'plaques', narrowing arteries.

Why should I control my blood pressure and cholesterol?

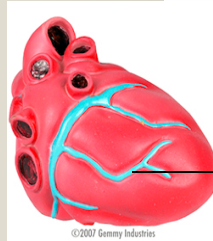
Vision changes & Blindness



Strokes and Dementia



Heart Failure & Heart Attacks



Pain and Amputation



Controlled blood pressure less than 140/90

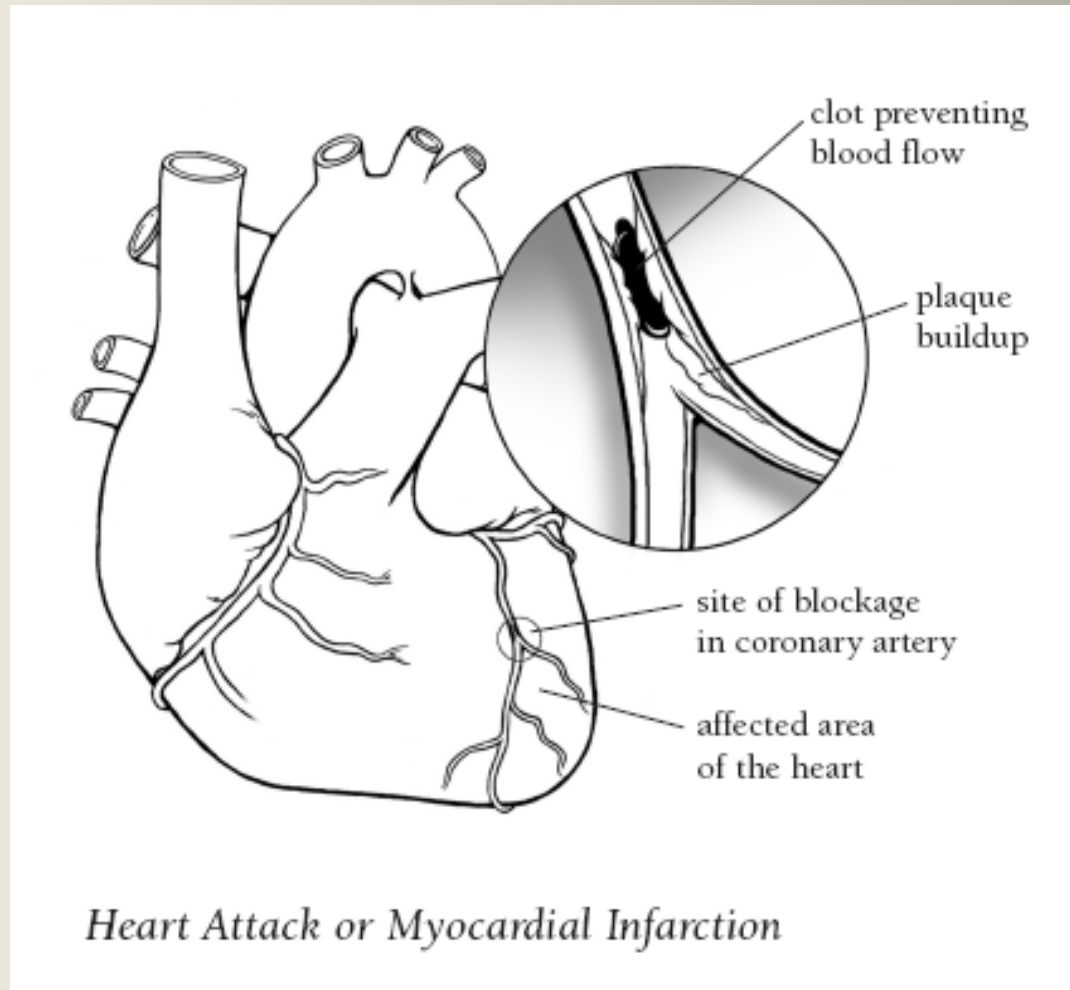
- 27% ↓ strokes
- 32% ↓ heart attack
- 30% ↓ heart failure



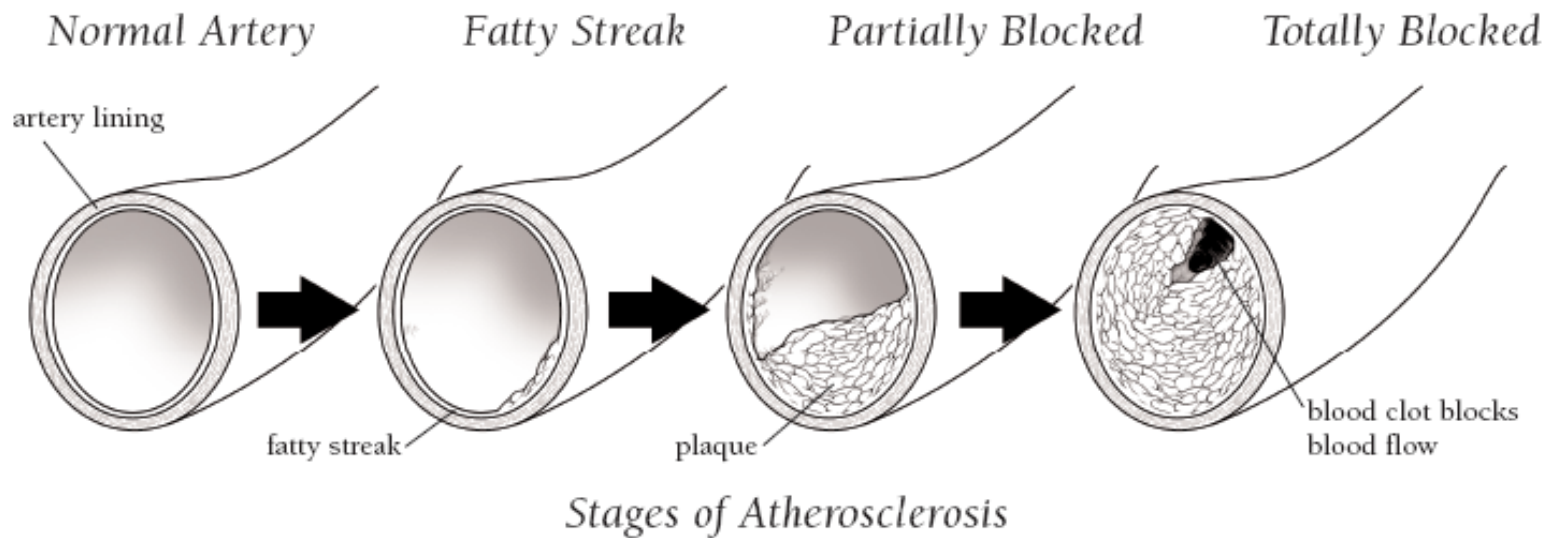
Kidney Failure



Heart Attack or Myocardial Infarction



Heart Attack or Myocardial Infarction



Are YOU at Risk for Heart Disease ?

- Age (45 years or older for men; 55 years or older for women)
- Family history of early heart disease
- High total cholesterol
- High LDL “bad” cholesterol
- Low HDL “good” cholesterol
- Smoking
- High blood pressure
- Diabetes
- Obesity/overweight
- Physical inactivity

Adult Ideal Measurements

- Cholesterol Less than 200
- Triglycerides Less than 150
- LDL (Bad Cholesterol) Less than 100 (high risk)
Less than 130 (low risk)
- HDL (Good Cholesterol) More than 40 for men
More than 50 for female
- Blood Pressure Less than 130/80 (high risk)
Less than 140/90 (low risk)

Child Ranges

TC < 175

LDL < 110

HDL > 55

BP

108-121 / 71-81





What do the numbers mean?

120 / 80

Systolic: Pressure
when your heart is
pumping

Diastolic: Pressure
when your heart is
relaxing

Blood pressure

- Goes up and down throughout the day
-  with activity and stress
-  with rest
-  with eating and drinking
-  with alcohol
- Affected by emotions

Stop Smoking



- Call 643-4622 for resources to assist with smoking cessation.
- Within:
 - 20 minutes your blood pressure and pulse rate decreases
 - 2 to 3 months circulation improves, walking is easier
 - 1 year, risk of heart disease is cut in half
 - 5 to 15 years, stroke risk is cut in half

These are Risk Factors that can be CONTROLLED

- Achieve and maintain desirable body weight
- Make healthy food choices
- Ensure regular physical activity
- Reduce stress
- Take medications as prescribed

Food is Natural Medicine



D.A.S.H. DIET



- Plenty of vegetables and fruits
- Choose Whole Grains
- Choose low-fat dairy products
- Choose Healthy fats
- Eat fresh foods to limit sodium

Eat OATS

Three or more times a week

DEA# GB000000 Lic. # ME 000000

Healthy Brain, Heart, Eyes, Kidneys,
Nerves

NAME _____ AGE _____

ADDRESS _____ DATE _____

R

(SIGNATURE)

LABEL
REFILL 0 1 2 3 4 5 PRN

DRS -NAT PRESC T
1-866-694-0800



Eat BEANS

One more time a week

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Healthy Brain, Heart, Eyes, Kidneys,
Nerves

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ADDRESS _____ DATE _____

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Eat Kalakoa Colors of the Rainbow

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Healthy Brain, Heart, Eyes, Kidneys,
Nerves

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ADDRESS _____ DATE _____

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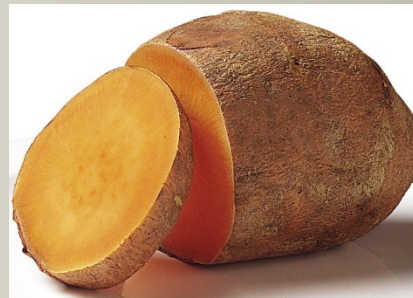
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- 2 or more plant colors per meal



- 1 or more plant colors

Eat Brown Rice or Hapa Rice

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Nerves

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Eat Whole Grain Breads & Other Whole Grains

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Eat a handful of Nuts and Seeds

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FIBER - 25-35 grams daily or 8 grams per meal, 5 grams per snack

- Two types of fiber:
- Soluble
 - Lowers cholesterol
- Insoluble
 - Adds bulk & acts like a brush, cleans out the colon
 - Helps keep your bowel movements regular
 - Reduces risks of certain cancers

Eat Healthy Fats

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Healthy Brain, Heart, Eyes, Kidneys,
Nerves

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ADDRESS _____ DATE _____

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DRS - NAT PRESC T
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Comparison of Dietary Fats

DIETARY FAT	Fatty acid content normalized to 100 per cent			
Canola oil	7%	21%	11%	61%
Safflower oil	10%	76%	Trace →	14%
Sunflower oil	12%	71%	1% →	16%
Corn oil	13%	57%	1% →	29%
Olive oil	15%	9%	← 1%	75%
Soybean oil	15%	54%	8%	23%
Peanut oil	19%	33%	← Trace	48%
Cottonseed oil	27%	54%	← Trace	19%
Lard*	43%	9%	← 1%	47%
Beef tallow*	48%	2% →	← 1%	49%
Palm oil	51%	10%	← Trace	39%
Butterfat*	68%	3% →	← 1%	28%
Coconut oil	91%	2% →	←	7%

*Cholesterol Content (mg/Tbsp): Lard 12; Beef tallow 14; Butterfat 33. No cholesterol in any vegetable-based oil.


Source: POS Pilot Plant Corporation Saskatoon, Saskatchewan, Canada, June 1994

 SATURATED FAT

 MONOUNSATURATED FAT

POLYUNSATURATED FAT

 Linoleic Acid

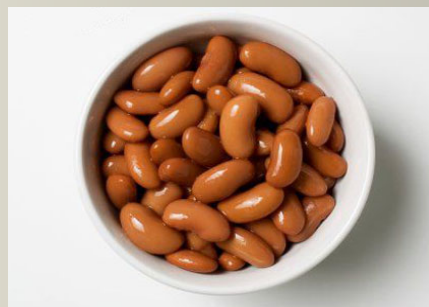
 Alpha-linolenic Acid (An Omega-3 Fatty Acid)

Choose Lean Protein

- ✓ **Choose Lean meats:** Chicken, fish, turkey, sirloin, eggs



- ✓ **Choose Vegetable proteins:** Tofu, beans



How Much Should I Eat?

- The Answer is in Your Hand.



Saturated Fat and Omega-3 Comparison



13 g saturated fat
90 mg Omega-3



0 saturated fat
1280 mg Omega-3

Man Doo Kal Bi: Choice 1



Meat Juhn
2 Scoops Rice
Macaroni Salad
Marinated Potatoes
Sweet Noodles
Corn

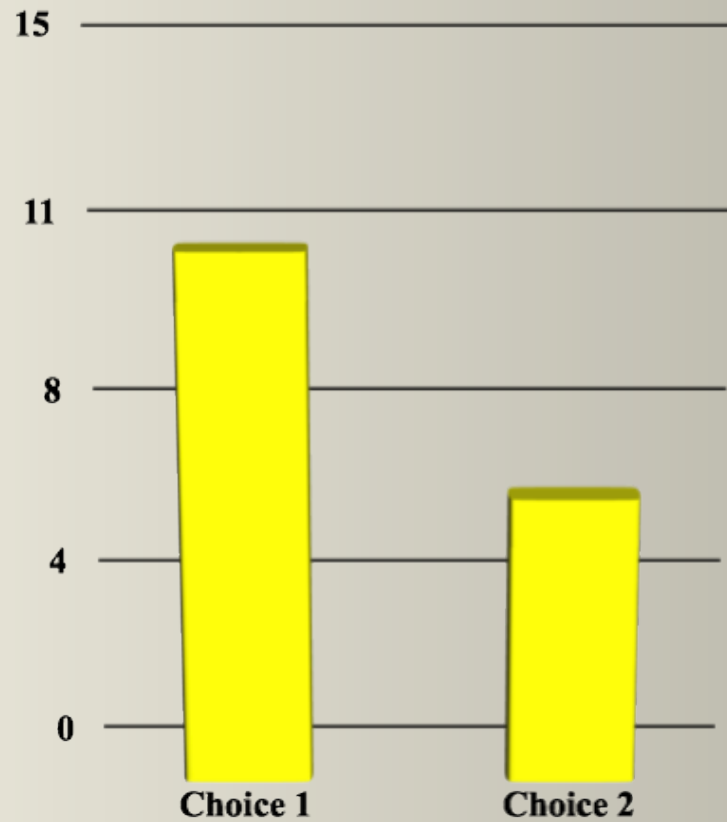
Man Doo Kal Bi: Choice 2



BBQ Chicken
1 Scoop Rice
Tofu
Cabbage
Bean Sprouts
Watercress

Man Doo Kal Bi

Comparison



Saturated Fat

Label Reading– Snacks

Nutrition Facts	
Serving Size 1 ounce Servings in bag 4	
Amount Per Serving cup	
Calories 155	Calories from Fat 93
% Daily Value*	
Total Fat 11g	16%
Saturated Fat 3g	15%
Trans Fat	
Cholesterol 0mg	0%
Sodium 148mg	6%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	5%
Sugars 1g	
Protein 2g	
Vitamin A 0%	• Vitamin C 9%
Calcium 1%	• Iron 3%

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

Per Serving Size

- Saturated Fat – 1 g or less
- Trans Fat – Zero
- Sodium – 200 mg or less
- Dietary Fiber – 3 g or more
- Sugar – 8 g or less

Meal Guidelines

- Na <500mg
- Fiber 5gm+
- Sat Fat <3gm
- <33% daily cal
- 50% veg &
- some fruit
- whole grain

Alcohol Drinks Rule: 1 for Women, 2 for Men if approved by doctor

One mixed drink with

- 1.5 fl oz (44 mL) of 80-proof liquor (such as vodka, gin, scotch, bourbon, brandy, or rum)



5 fl oz (148 mL)
of wine



12 fl oz (355 mL) of
beer or wine cooler



Rate Your Plate: The Healthy Plate

Fill one-quarter of your plate with a healthy protein source



Fill one-quarter of your plate with healthy grains or starches

Fill half of your plate with non-starchy vegetables

Benefits of Exercise

- Improves physical fitness
- Weight control
- Increases metabolism
- Burns calories
- Improves heart and lung function
- ↓ blood pressure, ↓ blood sugar, ↓ triglycerides
- ↑ HDL levels
- Prevents osteoporosis
- Improves mood

HUGE benefits from SMALL amounts of light physical activity

- How Often?
- 5 times per week for 30 minutes
- for general health
- 60 min daily for weight loss

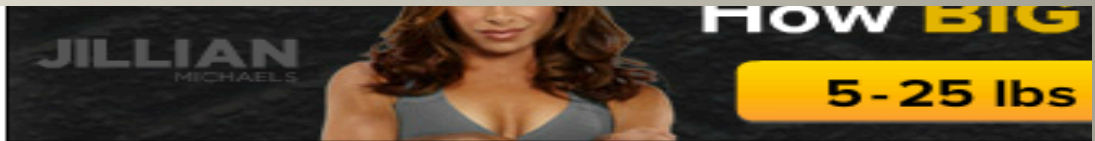
If you need to lose weight . . .

- Aim for a 10 pound weight loss, to start.
- Cut down on fried foods, trim/blot off visible fats
- Stop sugary beverages
- Stop eating out



Evaluating recipes

- It is very easy to do using calorie counter website
- Simply paste your recipe in, make corrections as needed and you have a nutrition label
- We need to know what we are serving!



PREMIUM SERVICES — Get Healthy and Learn to Keep the

My Recipes

To get started, enter the recipe and number of servings in the boxes provided below.

Servings

Ingredients

Analyze Recipe

Questions? [View the Feedback Form](#)

To see a nutrition facts label for your recipe, begin by entering your recipe

Calorie Count :: New Recipe - Windows Internet Explorer

http://caloriecount.about.com/cc/recipe_analysis.php

File Edit View Favorites Tools Help

McAfee

Calorie Count :: New Recipe

My Recipes

To get started, enter the recipe and number of servings in the boxes provided below.

Servings

Ingredients (per serving) Cals Gr.

- ✕ 15 1/2 ounce reduced % sodium chicken broth
- ✕ 15 1/2 ounce reduced- sodium canned corn
- ✕ 16 ounce non- fat refried beans
- ✕ 8 oz can no added salt tomato sauce
- ✕ 1/2 c salsa

[add new item](#) | [edit recipe](#)

Nutrition Facts

Serving Size 16 g

Amount Per Serving

Calories 4 Calories from Fat 0

% Daily Value*

Total Fat 0.0g **0%**

Cholesterol 0mg **0%**

Sodium 98mg **4%**

Total Carbohydrates 1.0g **0%**

Sugars 0.5g

Protein 0.2g

Vitamin A 1% Vitamin C 1%

Calcium 0% Iron 0%

Nutrition Grade A

* Based on a 2000 calorie diet

Nutritional Analysis

Good points

- No saturated fat

Diabetes

1 in 3
children born
today will
have diabetes

“Am I Going to be Cured?”



**Diabetes is a life-long disease
that can be controlled**

“What Happened?”

Type 1

- Very little or no insulin being made by pancreas
- Cells that make insulin are destroyed
- Must take insulin to live

Type 2

- Some but not enough insulin
- Insulin not used well
- Liver making too much sugar
- Insulin may be used to control blood sugar

Gestational Diabetes

- First Diagnosed during pregnancy
- High risk for Type 2 Diabetes



PRE-Diabetes



- Condition that comes BEFORE Type 2 diabetes.
- Good News = can delay or prevent diabetes
 - Healthy eating
 - Exercise 30 minutes 5 x week
 - Weight loss, if needed
 - Stress management

“How was I Diagnosed?”

	Fasting Blood Sugar (mg/dl)	Hemoglobin A1c (%)
Pre-Diabetes	100-125	5.7-6.4
Diabetes (2 high readings)	126 and above	6.5 and above

ABCs of Diabetes

A A1c

B Blood Pressure

C Cholesterol

True or False

- **Diabetes Causes:**
 - **Amputations**
 - **Blindness**
 - **Heart attacks**
 - **Strokes**
 - **Kidney failure, and**
 - **Sexual problems**

Answer is False

- Persistent **UNCONTROLLED** Blood Sugar Levels Causes
 - » Amputations
 - » Blindness
 - » Heart attacks
 - » Strokes
 - » Kidney failure, and
 - » Sexual problems

Blood Sugar Targets For People with Pre-Diabetes

- Fasting Blood Sugar (Lab)
 - Ideal = Less than 100
 - Okay = 100–125
- A1c
 - Ideal = Less than 5.7%
 - Okay = 5.7 – 6.4 %



Blood Sugar Targets for People with Diabetes

- Before Meals:
70–130
- 2 hours after a Meal:
below 180
- Bedtime:
110 – 150
- A1c Less than 7%



“How Do I Bring My Blood Sugars Down?”



- Taking Medication
- Pills (Oral Agents)
 - What are they?
 - How do they work?
- Insulin
 - Why Insulin?
 - Types
- Others

Medication Precautions



– Hypoglycemia

- Symptoms
- Treatment
- Prevention

– Alcohol

– Driving or Exercise

What Can I Eat?

- There are many things to consider:
 - What can I eat?
 - How much should I eat?
 - When do I eat?



“What Can I Eat?”

- Carbohydrates
- Proteins
- Fats
 - (!Saturated & Trans Fat!)
- Portions and
 - balanced meals
- Timing of Meals



Carbohydrates Make Your Blood Sugar Go Up. Good or Bad?

- Which Foods Have Carbs?



Why do we need carbohydrates?

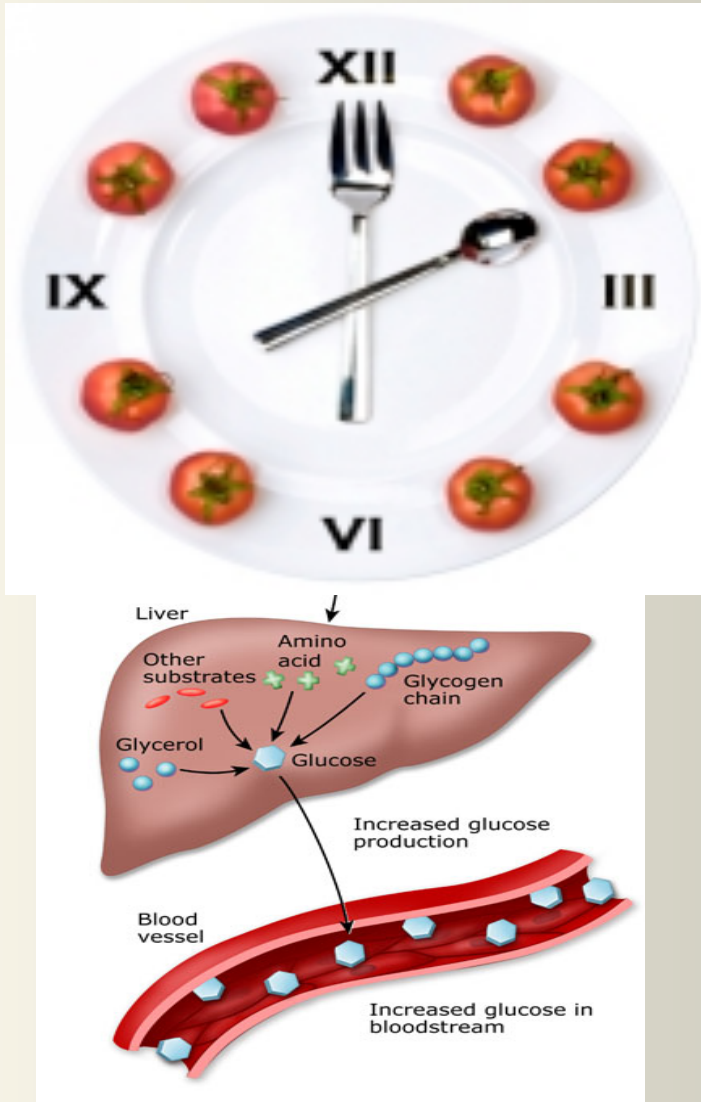


- Major fuel source for your brain, eyes, heart, lungs and other organs.



- Your muscles also use carbohydrates for energy

When to Eat



Best to eat:

- ✓ Within 1 hour of waking up
- ✓ Every 3 to 6 hours
- ✓ Stop eating 2–3 hours before going to bed

Complex vs Simple Carbohydrates

COMPLEX carbohydrates

- take longer to digest
- usually packed with fiber, vitamins, minerals
- “tricklers” because they enter blood slower

Includes whole wheat bread, brown rice, whole grain cereal, whole wheat pasta, potato, beans, whole fruits & vegetables



Simple Carbohydrates

- Digested quickly
- Refined and Processed foods
- “Gushers” --sugar enters blood quickly
- Includes white rice, white bread, many cereals
- soda, juice, candies, cookies, pies, ice cream,



e



Best Choices

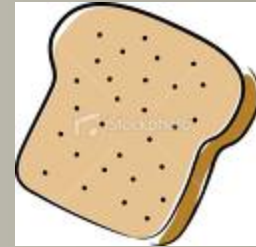
<u>Fuel</u>	<u>Gushers</u>	<u>Tricklers</u>
Bread		
Rice		
Noodles		
Potatoes		
Corn, Beans, Peas		
Cereals		
Fruits		
Milk		

Glycemic index/load =

The rate of breakdown of the food will affect how quickly the blood sugar will rise

What is 1 serving of carbohydrate?”

- each has 15gm CHO
- 1 slice of bread
- 1/3 cup of rice or noodles
- 3/4 cup dry cereal
- 1/2 cup potato or corn
- small fruit/ 1/2 large fruit
- 8 ounces of milk



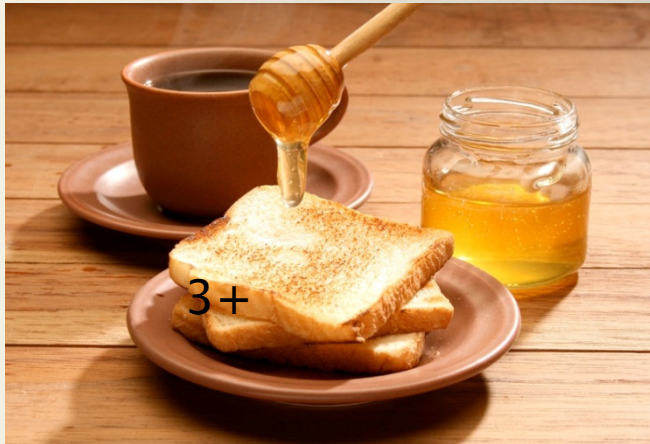
“How Much Can I Eat?”

- Women: 3–4 carbohydrate servings per MEAL for an active person
- 2–3 for more sedentary
- Men: 4–5 carbohydrate servings per MEAL for more active
- 3–4 for more sedentary
- age, gender, activity level are factors



Examples

2



3+

3
+



2+

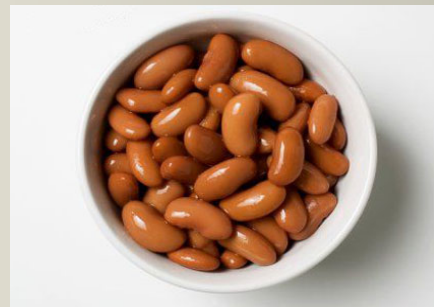


What About Protein?

- Choose Lean meats:
 - Chicken, fish, turkey, sirloin, eggs



- Choose Vegetable proteins: Tofu, beans



Unhealthy Fats

- Saturated and trans fats raise your cholesterol.
- Sources include:
 - **Butter, stick margarine**
 - **Fatty meats – ribs, hot dogs, sausages**
 - **Cheese**
 - **Tropical oils –– palm or coconut**
 - **Snack foods, fast food**

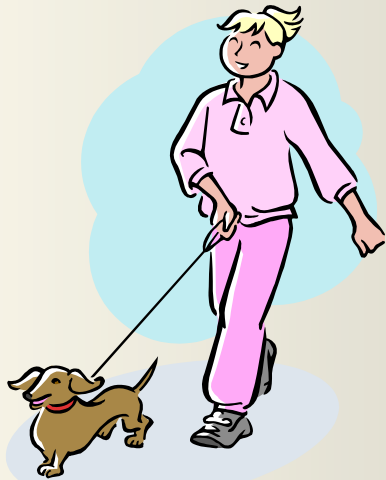
“How Do I Bring My Blood Sugars Down?”

- Being Active
- What Kind?
- How much?
- How long?
- When do I exercise?
- How do I stay safe?



**Q: What is the BEST
exercise?**

A: The one you will do!



“How Do I Bring My Blood Sugars Down?”

- Healthy Coping

- What does stress do to the body?

- What can we do to deal with stress?



GI issues/Allergies

- most common food that are allergenic– eggs, shellfish, fish, peanuts, tree nuts, milk, soy, wheat, gluten. Also strawberries, citrus.
- Reaction can range from allergenic to inflammatory.
- Can start at any point in life.

Solutions

Diagnosis/Solutions

- Blood tests or food diaries
- Careful avoidance of foods/derivatives which can be in pharmaceuticals, envelope adhesives, makeup



GI issues

- IBS– irritable bowel syndrome
- often a catch all for GI distress, can include stomach pain, diarrhea, constipation. May be stress related.



Solutions

- Adequate fiber– esp soluble
- Eat slowly and chew well
- Probiotics
- Digestive enzymes
- mindbody strategies–
meditation,
guided imagery, yoga



Gut bacteria

- newborns are sterile but soon develop a distinct and diverse brew of bacteria
- regulate digestion
- extract vitamins and other nutrients
- program the body's immune system
- build and maintain the gut wall
- produce 95% of body's serotonin

Microbiome-gut-brain axis

- bacteria in your gut can affect mood and behavior
- keep supporting beneficial bacteria with prebiotic containing foods
- eats food with probiotics– fermented, cultured foods
- avoid food with anti-biotics



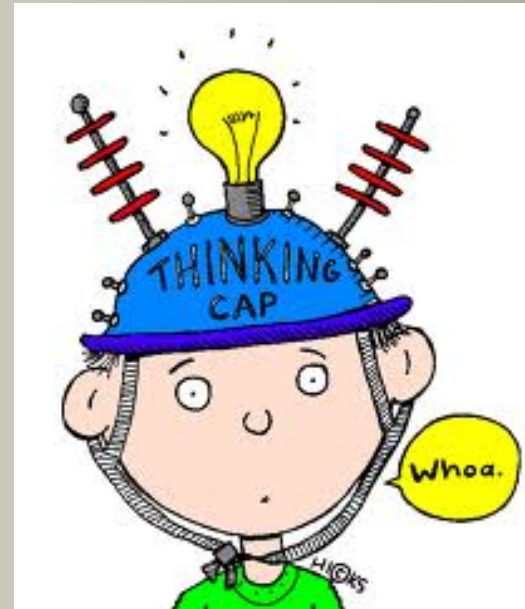
ADD/Learning Disabilities

- Question whether food allergies/intol cause behavior issues
- Evidence is best found in the elimination diet and a good food and behavior journal
- Environmental toxins can also be a factor.



Changing Behavior

- stages of change
- precontemplation
- contemplation
- preparation
- action
- maintenance and relapse prevention



SMART goals

- Specific
- Measurable
- Attainable
- Realistic
- Timely
- Who, what, where and when
- Track changes



Resources

- CSPI.net.org
- Today's Dietitian
- University health newsletter
- Web M.D.
- Tracking calories– livestrong.com,
sparkpeople.com

We DID it!!

**Wellness
CHAMPION**

