

# SESSION 4

## TRANSFORM YOUR GENES

"Learn to turn your good genes on and your bad genes off." –Dr. Youngberg

### Change Your Genes



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Your DNA is *not* your destiny.

–TIME MAGAZINE

”

#### Test Your Knowledge

- 1 Epigenetics refers to:
  - a a map of the human genome
  - b factors (besides genes) that influence gene expression
  - c the inevitable results of poor genetics
  - d none of the above
- 2 We can't alter our \_\_\_\_\_, but we can change the way it \_\_\_\_\_ itself.
- 3 The brown coated mice no longer had the Agouti gene.
  - a true
  - b false
- 4 Which of the following habits could change the way your genes express themselves?
  - a eating healthy food
  - b getting regular exercise
  - c managing stress
  - d all of the above
- 5 The ability to make choices that are not controlled by fate is: \_\_\_\_\_.

“

*Epigenetics is proving we have some responsibility for the integrity of our genome. Before, genes predetermined outcomes; now, **everything we do can affect our gene expression and that of future generations.** Epigenetics introduces the concept of **free will** into our idea of genetics.*

–**RANDY JIRTLE**, PhD

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**Reflect**

*What genetic risks do you have? How does this information change the way you think about those risks?*

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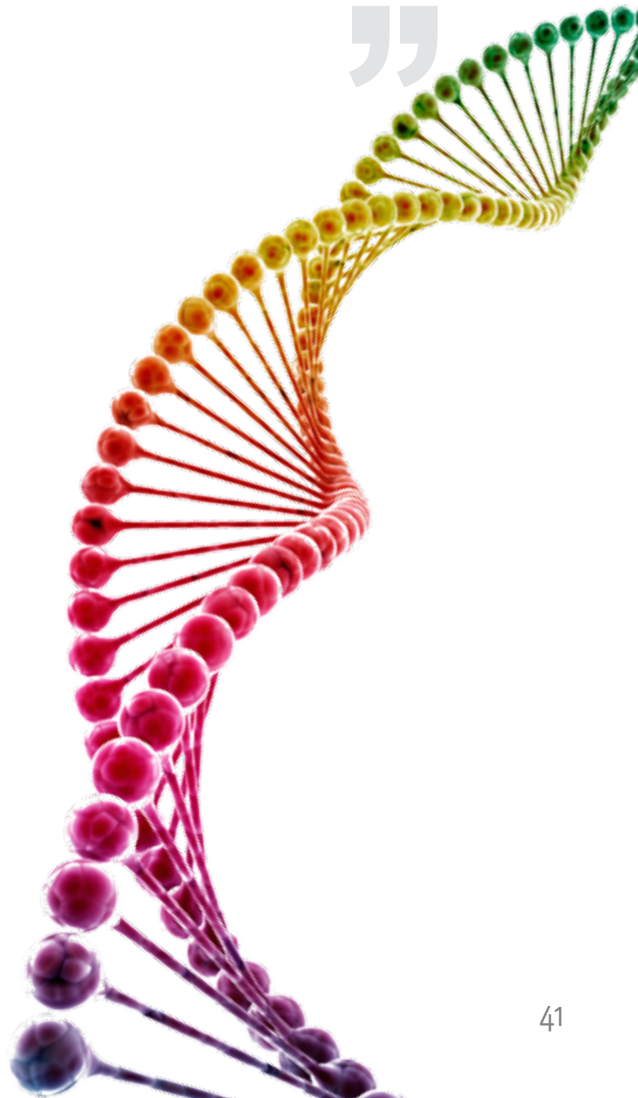
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## Meal Balancing

### Test Your Knowledge

- 1 The glycemic \_\_\_\_\_ and glycemic \_\_\_\_\_ tools can help you keep track of the way different foods impact your blood sugars. .
- 2 What's the best way to keep track of your meal balancing success?
  - a keeping a food journal
  - b getting a sponsor
  - c checking your blood sugars
  - d none of the above

### Activity

- 1 Create a healthy **breakfast bowl** by drawing or writing down the names and amounts of the green light foods inside:



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Balance isn't something you *find*, it's something you *create*.

”



*2 Create a healthy **lunch or dinner** by drawing portion lines in your plate and drawing or writing down your favorite green light foods:*



## Eating Healthy in a Hurry

### **Test Your Knowledge**

1 Choose healthy options at ethnic and vegetarian restaurants. Base your meals off of \_\_\_\_\_ and \_\_\_\_\_ vegetables.

Heading out for fast food? Look for a place that offers salads, veggie burgers, baked potatoes, vegetable sandwiches, or bean burritos.

2 Seven tips to keep calories under control:

TIP 1 Avoid \_\_\_\_\_ portions.

TIP 2 \_\_\_\_\_ your food.

TIP 3 \_\_\_\_\_ desserts.

TIP 4 Ask for a \_\_\_\_\_.

TIP 5 Ask for \_\_\_\_\_.

TIP 6 \_\_\_\_\_ sides and extras.

TIP 7 Minimize \_\_\_\_\_ consumption.

### **Reflect**

Nancy found a way to enjoy eating on the run. It took a little extra effort, but she made it happen. Brainstorm some ideas for healthy meal options on the run. Write your top 5 ideas below:

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

“

I really regret eating healthy today.

—SAID NO-ONE EVER!

”

### Eating in Layers:

With your busy schedule, not every meal can be gourmet. Not to worry, there's a simple solution. There's a practical way to cook and combine simple, whole foods. Whether your grandma is Betty Crocker, or you only cook in the microwave, choose the options that work for you.

**LAYER 1** Choose your starch (1–2 servings/meal): rice, potatoes, oats, starchy vegetables

**LAYER 2** Choose your legume (1–2 servings/meal): beans, lentils

**LAYER 3** Choose your veggies (2–3 servings/meal): cruciferous leafy, dark leafy, edible green leaves, bulbs, seed-containing, flowers, stems

**LAYER 4** Choose your fruit (1 serving/meal): melons, berries, citrus, tropical. Eat this on the side, not mixed into your meal!

**LAYER 5** Choose your healthy fat (1–2 servings/meal): olives, avocados, coconut, nuts, seeds

**LAYER 6** Choose your favorite boosters: spices, seasonings, herbs, sauces, dressings



### Activity

*Fill the bowl with the ingredients and amounts you'll need for an all-inclusive, 6-layer meal.*



## What About Medication?

 **Test Your Knowledge**

1 *What can the stories of Lisa and Sister Mary teach us about the proper use of insulin and other medications?*

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*Medicine sometimes snatches away health, sometimes gives it.*

—OVID

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Remember! People with type 1 diabetes and some people with type 2 diabetes *need to take insulin*. However, the majority of people with type 2 diabetes could potentially decrease their need for insulin by resolving their insulin resistance. Insulin doesn't treat the underlying cause of diabetes. In fact, excess insulin can be dangerous.

**2** *The extra-high insulin levels caused by insulin resistance lead to:*

- a weight gain*
- b hypertension*
- c cancer growth*
- d all of the above*

That's why it's so important for those with prediabetes and type 2 diabetes to reduce insulin resistance through healthy lifestyle habits. A health-conscious lifestyle can also help those with type 1 diabetes to significantly decrease the amount of insulin they need.





3 A clinical trial by the Diabetes Prevention Program found that exercise and a healthy diet are \_\_\_\_\_ as effective as Metformin in preventing prediabetes from developing into type 2 diabetes.

4 Which of the following are side effects of oral diabetes medications?

- a weight gain
- b kidney and liver damage
- c increased infections
- d all of the above

5 Which test can help determine whether someone with diabetes will need to take insulin long-term?

- a fasting blood sugar test
- b hemoglobin A1c test
- c random blood sugar test
- d C-peptide test

 **Reflect**

1 In what ways can you optimize first line therapy in your own life?

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2 Not only do your meals need balancing; your life needs balancing, too! Describe an area of your life that could benefit from more balance (fitness, diet, negative thinking, etc.).

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The key to keeping your balance is knowing when you've *lost* it.







## 8 Tips for Optimal Digestion

### **Test Your Knowledge**

1 There are no good foods or bad foods:

- a true
- b false

2 List the 8 tips for optimal digestion:

TIP 1 \_\_\_\_\_ your food.

TIP 2 Don't \_\_\_\_\_ your meals.

TIP 3 Eat a \_\_\_\_\_ breakfast,  
a \_\_\_\_\_ lunch,  
and a \_\_\_\_\_ dinner.

TIP 4 Avoid \_\_\_\_\_.

TIP 5 Avoid \_\_\_\_\_ foods.

TIP 6 Go for a \_\_\_\_\_.

TIP 7 Consider \_\_\_\_\_.

TIP 8 Eat with a \_\_\_\_\_ heart.





 **Reflect**

*What are some things you can do at mealtime to eat with a grateful heart?*

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*When I prayed for success, I forgot to ask for **sound sleep** and **good digestion**.*

—MASON COOLEY


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## STEP 4

### Transform Your Genes

Improve your mood, memory, and weight with one simple change: deep sleep. Getting true, "restful" rest is as important in balancing your life as good nutrition and exercise! So, work towards balance and ultimately, gene transformation, by getting a good night's sleep. Whether that's by reading a book before bed instead of using your phone, or by getting in bed 30 minutes earlier than usual, set a goal to improve your sleep.

**Your Goal:**



**STEP 1**  
**Change Your Paradigm**  
Give your mindset a positive shift—your inner voice can make or break you.

**STEP 2**  
**Treat the Cause**  
Take time each day to discover the power of after-meal exercise.

**STEP 3**  
**Eat to Live**  
Make food your medicine by filling your meals with green light foods.

**STEP 4**  
**Transform Your Genes**  
Improve your mood, memory, and weight with deep sleep.

**STEP 5**  
**Build Your Team**  
Find a health buddy—someone to hold accountable and vice versa.

**STEP 6**  
**Choose the Best**  
Get out there—give your genes the Vitamin D advantage.

**STEP 7**  
**Dream Big**  
Reach for your dreams, and involve others to achieve your goals together.

**STEP 8**  
**Feed Your Soul**  
Let go of the things that hold you back, like bitterness, and negative thoughts.