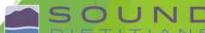


Preventing Type 2 Diabetes: Class 12

Megan Ellison, MS, RDN, CDCES


STILLY VALLEY
HEALTH CONNECTIONS
PUBLIC HOSPITAL DISTRICT #3, SNOHOMISH COUNTY



1

COST

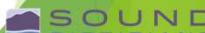
\$413 Billion
Total medical costs & lost work & wages for people with diagnosed diabetes

Medical costs for people with diabetes are **more than twice as high** as for people without diabetes

RISKS

People who have diabetes are at **higher risk of serious health complications**:

- Blindness
- Kidney failure
- Heart disease
- Stroke
- Loss of toes, feet, or legs



3

Prediabetes: What it is and Why it Matters

PREDIABETES

98 Million
About 98 million American adults—**more than 1 in 3**—have prediabetes


More than 8 in 10
adults with prediabetes
don't know they have it

- Without changes, 37% of those with prediabetes will likely progress to type 2 diabetes in 4 years, and most will have the diagnosis in 10 years.
- Prediabetes is also associated with an increased risk for heart disease, and some forms of cancer.
- There are often no signs or symptoms.



2

Good News for Preventing Diabetes

 **58%**
Weight loss of 5 to 7% of body weight achieved by reducing calories and increasing physical activity to at least 150 minutes per week resulted in a 58% lower incidence of type 2 diabetes

 **71%**
For people 60 and older, the program reduced the incidence of type 2 diabetes by 71%

 **34%**
After 10 years, lifestyle change program participants had a 34% lower incidence of type 2 diabetes



4

Winning Strategies

The DPP lifestyle change intervention aimed to help participants lose 7% of their body weight, and to engage in 150 minutes of physical activity each week.

Participants were also guided to:

- ▶ Monitor their weight regularly
- ▶ Keep track of physical activity
- ▶ Reduce calorie intake
- ▶ Eat a wholesome, balanced diet
- ▶ Record food intake
- ▶ Manage stress
- ▶ Focus on stopping unhelpful negative thoughts
- ▶ Develop problem-solving skills related to healthful eating and being active
- ▶ Maintain motivation



5

Boosting Insulin Sensitivity and Preserving Insulin Production

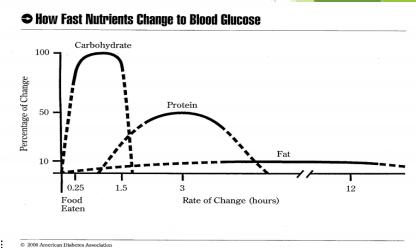
1. **Weight loss**
 - a. Losing just a little weight can reduce insulin resistance.
2. **Diet**
 - a. A balanced pattern with emphasis on plants and healthy fats has beneficial effects.
3. **Physical activity**
 - a. Every time you exercise you utilize glucose and decrease need for insulin.
4. **Sleep**
 - a. Lack of sleep hinders the use of insulin. Aim for 7-8 hours nightly.



6

What to ADD into Your Intake

- ▶ Protein spaced throughout the day; paired with carbohydrate foods
- ▶ Fiber & Color - Plants!
- ▶ Structure: timing, pairing, planning ahead
- ▶ Variety - increases nutrition quality and benefits your microbiome
- ▶ Spices and Herbs
- ▶ Inspiration with recipes & seasonal eating
- ▶ Hydration



7

Movement & Muscle

- ▶ Move after meals to lower post-prandial glucose ([2 min helps!](#))
- ▶ Incorporate strength or resistance exercises 2x/wk
- ▶ Aim for 150 min cardio per week
- ▶ Incorporate stretching after other exercises
- ▶ Do what you love, so that you will stick with it
- ▶ Add accountability - walking buddy, dance partner, dog, etc.



8

Sleep & Stress - the dynamic duo

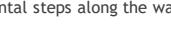
- ▶ Quality and Quantity Matter
 - ▶ Address any sleep disturbances, such as snoring or sleep apnea
 - ▶ Aim for 7-8 hrs of sleep with good sleep hygiene techniques
- ▶ Find non-food ways to de-stress and address emotional eating
- ▶ Address any mental health barriers to making healthful changes
- ▶ Get outdoors and some sunshine:
 - ▶ Adequate Vitamin D can decrease the risk for progression from prediabetes to diabetes by approximately 10%-15%.



9

Mindset

- ▶ Identify and Understand Your “Why” for making changes
- ▶ Shift to a long-term perspective with incremental steps along the way
- ▶ Shift from outcomes goals to behavioral goals
- ▶ Work Smarter than Harder
- ▶ Surround Yourself with Supporters



The word cloud is shaped like a human brain, with words such as 'skills', 'resilience', 'target', 'best', 'optimists', 'health', 'optimism', 'best practices', 'study', 'liberty', 'independence', and 'confidence' scattered throughout the interior.



10

Possible Solutions to Common Problems: Too Busy for Breakfast

- ▶ Have a few Grab & Go Options:
 - ▶ Greek yogurt, fruit, granola
 - ▶ Overnight oats w/ protein, fruit and added fiber
 - ▶ Egg Muffins w/ veggies - batch cooked on the weekends
 - ▶ Egg in a mug - microwave for 40 seconds
 - ▶ Nut/Granola bar dipped in Greek yogurt
- ▶ Leftovers for B-Fast!
- ▶ Wraps:
 - ▶ Savory: cream cheese or hummus or deli meat/cheese in a tortilla with veggies
 - ▶ Sweet: cream cheese or nut butters with banana or apple slices or berries & cinnamon
 - ▶ Egg Breakfast Burritos - made ahead of time and frozen
- ▶ Smoothies:
 - ▶ Fruit, protein, fiber/fat

11

Possible Solutions to Common Problems: Lack of Support

- ▶ Have an honest discussion
- ▶ Ask for support
- ▶ Give specific suggestions about what would be helpful
- ▶ Address sabotage - from self or from someone else
- ▶ Set guidelines or goals together - example meatless Mondays
- ▶ Consider counseling as an option

12

Possible Solutions to Common Problems: Environment at Work

- ▶ Develop rules with exceptions (see Chapter 12 page 273)
 - ▶ Example: candy jar use only on Wednesdays (set parameters to reduce stress the rest of the week, but still be able to enjoy the treat)
- ▶ Ask officemates to consolidate treats to one area
- ▶ Encourage healthier traditions/environment for all:
 - ▶ Fruit basket instead of donuts for a weekly meeting
 - ▶ Walking meetings or walking on breaks
 - ▶ Ask to have vending machines or provided foods updated with healthier options
 - ▶ Sit to stand desks, walking pads, access to a small room for stretch breaks

13

Possible Solutions to Common Problems: At Parties

- ▶ Determine your tradeoffs: appetizer or dessert
- ▶ Stay hydrated and start with mocktails; set limits on high calorie drinks like alcohol
- ▶ Don't go hungry or "save up" by skipping meals/snacks during the day
- ▶ Try to be active: mingle, stand, play games, take a mini walk w/ a friend
- ▶ Bring a healthful dish to share
- ▶ Move away from the buffet or bar or dessert station
- ▶ Focus on the people and the interaction over the food
- ▶ 3 bite strategy; take a small portion of your favorite to avoid over-restricting



14

Possible Solutions to Common Problems: On Vacation

- ▶ Pack food for the trip
 - ▶ Take a cooler: fruit, cut-up veggies, cheese sticks, HB eggs, sandwich, yogurt
 - ▶ Shelf-stable options: nuts/seeds; PB packets, whole grain bars, fresh or dried fruit, laughing cow cheese wedges, whole grain crackers, dry roasted edamame
- ▶ Make sure your hotel has a mini fridge, then stop by a grocery store for whole fresh items or some deli options
- ▶ Check out menus and reviews online for restaurants ahead of time
- ▶ Walk to dinner or other destination (museum, etc)
- ▶ Bring your water bottle
- ▶ Pick lodging with a gym or find a local one
- ▶ Set guidelines for treats (rules with exceptions)
- ▶ Get back into healthful routines when you get home!

15



Next Level

- ▶ What about supplements?
- ▶ If deficient, these can be helpful: zinc, magnesium, chromium, Vit D
- ▶ What about medications?
- ▶ Have a discussion about pros/cons of the options with your provider.
- ▶ GLP-1s:
 - ▶ Pros: addresses blood sugar, weight, food cravings, heart and kidney health
 - ▶ Cons: expensive, GI changes, muscle loss if rapid wt loss, is not a one-time fix (most people need to stay on them to continue to see benefit)
- ▶ Some herbs/foods may have benefit:
 - ▶ Ginger, cinnamon, turmeric, fenugreek, berberine, soluble fiber (psyllium, ground flax, chia), bitter melon
- ▶ Be Safe – look for third party testing or buy from a reputable organization that vets brands



16

Follow-Through:

Ask Primary Care:

- ▶ Hgb A1C
- ▶ Vit D checked with labs
- ▶ Discuss medication options
- ▶ Ask for referral to dietitian
- ▶ Ask for referral to sleep specialist
- ▶ Ask for referral to physical therapy or personal training

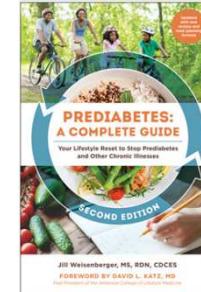
Mental/Social:

- ▶ Seek counseling to address any mental health barriers
- ▶ Join a social exercise program
- ▶ Attend more online or in-person nutrition classes
- ▶ Keep Wellness Vision updated and accessible
- ▶ Review previous classes and the book for refresher info

17

Year Overview:

- ▶ PreDiabetes - What it is and Why it Matters & Preparing for Your Lifestyle Reset
- ▶ Building a Healthy Boosting Diet
- ▶ Get a Move On
- ▶ Addressing Your Weight
- ▶ Meal Planning
- ▶ Grocery Shopping
- ▶ Meal Preparation
- ▶ Eating Away from Home
- ▶ Don't be an Active Couch Potato
- ▶ Sleep is Not Optional; Stress Management
- ▶ Getting (Keeping) Your Head in the Game
- ▶ Changing your Behavior When Change is Hard



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Happy & Healthy Holidays to you!

Megan Ellison, MS, RDN, CDECS



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MICROWAVE MUG BREAKFAST

3

Ways

Watch our video: <https://youtu.be/0mu1v2nZyHs>

1

Banana Muffin

- 2 Tb whole-wheat flour
- 2 Tb all-purpose flour
- 1/8 tsp salt
- 1/4 tsp cinnamon
- 1/8 tsp baking powder
- 1 tsp brown sugar
- 1/4 cup milk
- 1/2 banana, mashed

2

Pepper & Cheese Omelet

- 2 eggs
- 2 Tb milk
- 1 Tb shredded cheese
- Few slices bell pepper, chopped (or veggie of choice, like spinach or olives)
- Pinch of salt
- Pinch of black pepper

3

Cinnamon Apple Baked Oatmeal

- 1/2 cup rolled oats
- 1/2 cup milk
- 1/4 tsp cinnamon
- 1 tsp brown sugar
- Few apple slices, chopped (or fruit of choice, like pears or peaches)

Directions

- Combine all ingredients in a microwave-safe mug.
- Mix well and cover with a paper towel.
- Microwave for about 1-2 minutes (this time will vary) or until cooked.
- Let sit for 1-2 minutes.
- Enjoy!

Nutrition Nuggets!



Cows milk and soy milk usually have the most protein of all milk options!



Oats are packed with fiber to fill you up and help keep your heart healthy!



Bell peppers are packed with vitamin C. Vitamin C can help keep your immune system strong and can help cuts and bruises heal faster!



SOUND
DIETITIANS



Overnight Oats

Overnight oats are the perfect grab-and-go breakfast: they're quick, filling, affordable, and adaptable!

Quick: Only 5 minutes to prep! Make a few jars and have breakfast ready for the next few days

Filling: Packed with 10-20g protein, 10-15g fiber, and 400-500 calories

Affordable: Oats are pennies per pound when purchased in

Adaptable: Seasonal fruits and various seeds or nut butters make over a dozen of possibilities

DIRECTIONS

- > In a glass jar, add in one ingredient from each category, stir well, and refrigerate overnight or for 4 hours.
- > Keep for up to 3 nights.
- > Eat cold or hot

MILK

Almond - original, vanilla, chocolate (3/4 cup)

Soy - original, vanilla, unsweetened (3/4 cup)

Low Fat - regular or lactose free (3/4 cup)

PROTEIN

Nut Butters - peanut, almond, cashew, sunflower (1 Tbl)

Protein powder - whey, hemp, soy, pea (1 scoop)

Yogurt - Low fat greek, coconut, soy (1/4 cup)

SEEDS

MILK

FRUIT

PROTEIN

FLAVORS

OATS

OATS & QUINOA

Dry Old Fashioned Oats - (1/2 cup) Quick-cook oats can be used instead if a softer texture is desired

Cooked Quinoa or Brown Rice - (1/2 cup) Feeling adventurous? Use leftover grains instead

OPTIONAL FLAVORS

Sugar - maple syrup, agave, honey, sugar (2 tsp) coffee creamer, chai tea concentrate (2 Tbl)

No/ Low Calorie - stevia, cinnamon, ginger, unsweetened cocoa, vanilla extract (1/2 tsp)

SEEDS

Chia - for a boost of fiber (1 tsp)

Ground flax - for a thicker texture (1 tsp)

Sunflower - for an extra crunch (2 tsp)

Breakfast Egg Muffin Variations

Each recipe makes one dozen egg "muffins". Pair with whole grains, fruit or milk for a well-rounded breakfast.

Denver:

1 cup finely diced lean ham (less than 10% fat)
2/3 cup shredded low-fat Colby jack cheese
1 green bell pepper, finely diced
1-2 thinly sliced green onions
12 eggs, beaten well
1 tsp. 21 spice blend no salt seasoning

Garden Veggie:

1 cup shredded zucchini
1 cup diced tomato (2 medium)
½ cup marinated or sautéed mushrooms, diced
1-2 thinly sliced green onions
2/3 cup finely grated low-fat cheese
12 eggs, beaten well
1 tsp. 21 spice blend no salt seasoning

Tuscan:

1 cup artichoke hearts packed in water, diced
1 cup roasted red bell peppers, diced
4 oz can sliced black olives, drained
½ cup grated Parmesan cheese
12 eggs, beaten well
1 tsp Tuscan seasoning (Costco carries one)

Directions:

Preheat oven to 350 degrees.

Prepare regular sized muffin cups with either paper/foil or using spray/oil/butter to prevent sticking.

Prepare veggies and meats as directed and disperse among muffin cups, along with the cheese.

Beat eggs and spices well and pour into muffin cups, leaving ¼ inch space at top of each cup.

Bake for about 30 minutes or until golden brown.

Refrigerate for a quick meal (serving size 2) or snack (serving size 1) throughout the week. Reheat muffins in microwave on high for 30-60 seconds.

Experiment with different ingredients and enjoy!

Southwest:

1 cup browned lean sausage (drained)
1 cup tomato diced (about 2 medium)
4 oz can green chilis
¼ cup fresh cilantro, finely chopped (optional)
2/3 cup shredded Mexican cheese blend
12 eggs, beaten well
Dash or two of hot sauce, to taste

Let's Build a Parfait



Do you have extra yogurt at home? Use it to make the perfect parfait. Three ingredients is all you need. Mix and match any fruit and yogurt with any nuts or cereal. Layering your three ingredients in a clear glass bowl or jar creates a beautiful meal. A parfait makes for a filling breakfast or a sweet treat after a long day of outside play. Make one today!

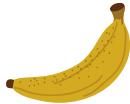
sliced apples



frozen berries



bananas slices



canned peaches



dry cereal



almond slivers



roasted peanuts



seedy granola bar



6oz low fat yogurt



Parfait



What's so great about yogurt? Yogurt is an excellent source of both protein and calcium. It's more affordable than meat and is easy to find in the store. Protein and calcium are two nutrients the body needs every day. They are used for the growth of your muscles, bones, and teeth. Without these two nutrients, bones become fragile and are more likely to break. Kids ages 4-9 need 1,000mg a day. Adolescents ages 11-18 need 1,300mg a day. Most yogurt has 220mg in 6oz. That's 22% of your kiddos daily need!

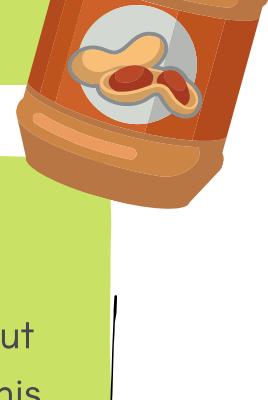
BUILD YOUR OWN WRAP

A STEP-BY-STEP GUIDE ON HOW TO BUILD
A NUTRIENT & ENERGY FILLED WRAP



BUILDING YOUR BASE

For your base choose your preferred tortilla. Any corn or flour tortilla will do. The carbohydrates in your tortilla are important for providing you with a good bit of energy to power you through your day and outdoor activities.



ADD YOUR SPREAD

To your tortilla, spread on some hummus, peanut butter (any nut butter will do) or soft cheese. This layer will serve as the protein portion of your wrap and as the glue that holds everything together.

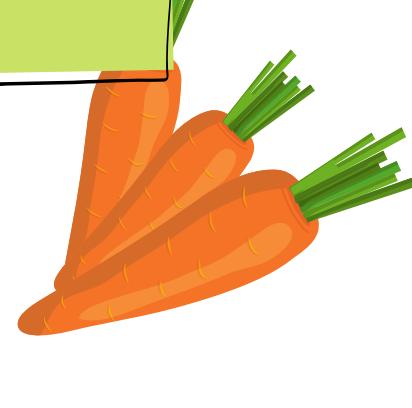
For this step you can decide if you want your wrap to be savory or sweet!



TOPPINGS GALORE

For this final step add your preferred choice of toppings.

For savory wraps you can add avocado, shredded carrots, sliced bell peppers and sliced cucumbers, or any vegetables you have on hand. For sweet wraps you can add sliced apples, bananas, raisins, or sliced strawberries. Try experimenting with different seasonings on your wraps such as cinnamon, flax seed meal, cayenne pepper or za'atar. Remember not to overfill your wrap!



GET CREATIVE

Making your own wraps are a great opportunity to get creative in the kitchen and experiment with new tastes and flavors. Happy cooking and creating!

HOW TO BUILD A SMOOTHIE

A balanced smoothie should have a variety of nutrients. This balance includes protein, carbohydrate, and healthy fat sources. Protein provides the building blocks for muscles, skin integrity, and many other important processes of the body. Carbohydrates are our body's fuel. They "feed" our brain and muscles. Fiber is a form of carbohydrate that we cannot breakdown and use for fuel. Fiber assists in digestive and heart health. Most Americans do not meet fiber recommendations. Adding fiber to a smoothie can help you achieve the 20-38 g of daily fiber recommended. Adding a liquid to your smoothie can help make blending easier. The liquid choice can also be an opportunity to increase nutrition. For example, adding vitamin c with orange juice to your green smoothie can help increase iron absorption. Smoothies can be a fun, easy, and nutritious way to add variety to your daily routine.



STEP 1. PICK YOUR CARBOHYDRATE

Fruits are an excellent source of carbohydrates and a source of fiber!

BANANA potassium rich to help improve cardiovascular health

BLUEBERRIES antioxidant and a brain booster!

Cantaloupe rich source of vitamin A to support healthy vision

PINEAPPLE vitamin C for immune health; also rich in folate and thiamine

RASPBERRIES rich source of dietary fiber and antioxidants

STRAWBERRIES just 5 strawberries provides nearly 100% of your vitamin C needs

STEP 2. ADD A PROTEIN

2 TABLESPOONS PEANUT BUTTER high in mono and polyunsaturated fats

4 OUNCES OF PLAIN GREEK YOGURT Greek yogurt has less lactose than traditionally made yogurt

2 TABLESPOONS WALNUTS plant source of omega 3 fatty acids

10 ALMONDS (OR 1 TABLESPOON ALMOND BUTTER) rich in antioxidant vitamin E; calcium and iron too

1 SERVING PROTEIN POWDER pick your favorite whey or plant based powder

STEP 3. ADD A FIBER

SPINACH 3 cups = 2g of fiber and is loaded with antioxidants

CANNED PUMPKIN excellent source of magnesium, vitamin E, and beta carotene

FLAXSEEDS anti-inflammatory with omega 3 fats

CHIA SEEDS source omega 3 fatty acids and magnesium

AVOCADO good source of potassium, vitamin A and anti-inflammatory fats

STEP 4. BLEND IT TOGETHER WITH A LIQUID BASE

Add 1/4-1 cup milk of choice, to desired consistency such as:

MILK, COCONUT MILK, ALMOND MILK OR HEMP MILK



SMOOTHIE TIPS:

- Try a smoothie as a meal replacement. If you are replacing a meal with a smoothie, aim for 20-30g of protein and 45-75g of carbohydrate.
- Try a smoothie as a snack. Aim for 7-14g of protein and 15-30g of carbohydrates for snack sized smoothies.
- Avoid smoothies with mostly one nutrition component. For instance, smoothies made with fruit alone are a missed opportunity for other nutrients and may result in excessive calorie and/or carbohydrate intake. Add protein and leafy greens to your favorite fruit smoothie for a more balanced meal or snack.
- For a cool treat, try adding ice to a smoothie or freeze the fruit before adding or freeze coconut milk into ice cube trays for extra creaminess.
- Never had greens in a smoothie? Try a few handfuls of spinach. Spinach is often subtle in taste when added to a smoothie.

