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A Note from the D2d Leadership Partners in Research

Dear D2d participant,

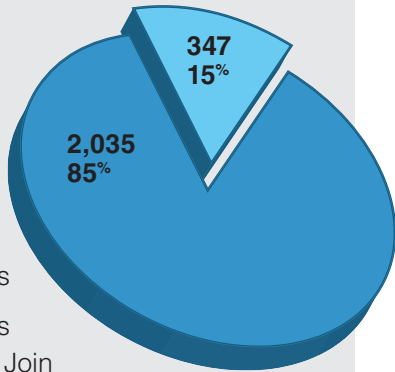
On behalf of the entire D2d team, I would like to welcome you to the Vitamin D and Type 2 Diabetes study and thank you for partnering with us in this landmark study on diabetes prevention. Research participants are unique individuals and we are thrilled to have you join a research team that spans the entire country and takes place at more than twenty prestigious medical centers around the United States.

The idea for D2d was conceived in 2002 when researchers started looking at the association between vitamin D and risk of diabetes. Over the next decade, several research teams reported that people with low levels of vitamin D have higher risk of developing diabetes. However, these studies do not prove cause and effect and it is possible that people with high vitamin D levels are healthier overall, which may explain the association between high vitamin D and lower diabetes risk. The D2d study is designed to test the idea that vitamin D supplementation may help to lower the risk of diabetes in adults at high risk.

The D2d research team considers participants to be partners and we look forward to a productive partnership with you. Each and every participant is important and staying fully engaged with D2d is as important as joining the study. We look forward to seeing all of you stay with us for the entire study, which is expected to last about 4 years. D2d is a very ambitious undertaking, but I am confident that, together, we will find the answers.

I deeply appreciate your commitment to D2d,

Anastassios G Pittas, MD, MS
D2d study Principal Investigator



- Current Participants
- Participants Needed to Join

Be Social, Follow D2d:



D2dstudy



D2d study

D2dStudy.org

How Much Food is on Your Plate?



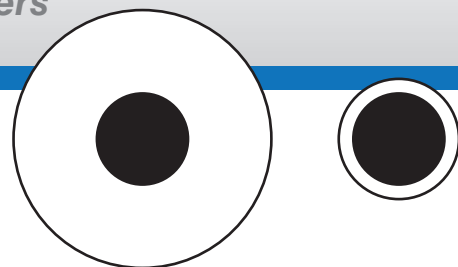
After a long hard day, nothing seems better than a nice home cooked meal. It's 6:00 in the evening and dinner is on the table, which plate would you choose from the image above? Your answer will probably depend on how hungry you are at that moment. If you are hungry and looking for the plate with the most food, you would likely choose the plate on the green flower place mat;

whereas, if you are less hungry and you are looking for the plate with the least amount of food, you would likely pick the plate on the orange place mat. If you look carefully, all four plates have the same amount of food on them, so what makes us think that some plates have more or less food than others? It's called the Delboeuf Illusion.

Take home trick:

Reducing the size of your plate may give your meals the illusion that they are bigger than they really are, which can help prevent over-serving and over-eating.

Koert Van Ittersum and Brian Wansink, *Journal of Consumer Research*, Vol. 39, No. 2 (August 2012), pp. 215-228



Even though both dots are the same size, the Delboeuf illusion makes the dot on right seem larger than the dot on the left because it is enclosed by a similar size circle which reduces the amount of white space between the dot and the outer circle. Dr. Brian Wansink and Dr. Koert van Ittersum, applied this illusion to the meals we eat every day. In an article published in the *Journal of Consumer Research*, they reported that people tend to over-serve food when using larger dishes and under-serve when using smaller dishes because we try to leave the same amount of "white space" between the food and the edge of the dish, regardless of the size of the plate. This research suggests that large dinnerware may be contributing to eating more and tricking us to believe that we are eating less. ■

What is the D2d study?

The vitamin D and type 2 diabetes (D2d) study is a large clinical trial taking place in more than 20 cities across the United States and is funded by the National Institutes of Health and the American Diabetes Association. The goals of D2d are to find out if vitamin D supplementation is safe and effective in preventing the development of type 2 diabetes in people at risk for the disease and to better understand how vitamin D affects the body's ability to use glucose (sugar).

There are over 86 million Americans who are at increased risk for developing diabetes. Lifestyle

changes, such as healthy eating, exercise and weight loss, can decrease the chances of developing diabetes. However, losing weight and maintaining a healthy weight is challenging, and many people still develop diabetes despite efforts at changing their lifestyle. Researchers think it is important to find other prevention tools that are safe, inexpensive, and easy to implement to prevent diabetes.

D2d will enroll about 2,400 participants who are at risk of developing type 2 diabetes.

During the study, we encourage you to participate in D2d Participant Events.

These group events will be held twice a year at each D2d site. They will be an opportunity to learn more about diabetes prevention, while socializing and eating healthy snacks.

In addition to the many enthusiastic participants we have so far, D2d is looking for more adults to participate. If you know a friend or a family member who may be at risk for diabetes and interested in joining D2d please refer them to the study's website, www.d2dstudy.org, or directly to one of the D2d sites shown on the last page of the newsletter. ■

Q&A

What is pre-diabetes?

Before people develop type 2 diabetes, they almost always have “prediabetes” – blood glucose levels that are higher than normal but not yet high enough to be diagnosed as diabetes.

Usually, there are no symptoms of prediabetes, so you may have prediabetes and not know it.

The same factors that increase the risk of developing type 2 diabetes also increase the risk of prediabetes, including:

- Extra weight. Being overweight is the main risk factor for prediabetes.
- Inactivity. The less active you are, the greater your risk of prediabetes.
- Advancing age. The risk of prediabetes increases as you get older, especially after age 45.
- Family history. The risk of prediabetes increases if a parent or sibling has type 2 diabetes.
- Race. African-Americans, Hispanics, American Indians, Asian-Americans and Pacific Islanders are more likely to develop prediabetes.
- Gestational diabetes. If you had diabetes when you were pregnant, your risk of developing diabetes later in life increases. ■



Featured Recipe

Basic Hummus

Do you have a healthy recipe you would like to share or a favorite recipe you would like to see made healthier? Submit recipes to your local research coordinator for a chance to have your recipe included in a future newsletter! Below is a recipe for healthy hummus, contributed by Ellen Vickery who is a Research Associate at the D2d Coordinating Center at Tufts Medical Center in Boston.

Ingredients

- One 15-ounce can low-sodium chickpeas, also called garbanzo beans, drained and rinsed
- ¼ cup fresh lemon juice, about 1 large lemon
- Large garlic clove, minced
- 2 tablespoons olive oil
- ½ to 1 teaspoon kosher salt, to taste
- 2 to 3 tablespoons water



Serving size: ¼ cup

In a blender or food processor, blend chickpeas, garlic, and salt for 15 seconds. Stop, scrape down sides, and blend for another 15 seconds. Add lemon juice and olive oil. Blend for 20 seconds. Add any other desired flavors (see variations below). Blend for 20 seconds then scrape down the sides of the bowl. With the blender/processor running, drizzle in the water to reach the desired consistency. Serve with carrot sticks or whole wheat pita chips.

Nutrition information: (% of daily intake based on a 2,000 calorie diet): 97 calories, 5g fat (7%), >1g saturated fat (3%), 0mg cholesterol, 233mg sodium (10%), 118mg potassium (3%), 11g carbohydrate (4%), 3g dietary fiber (13%), 4g protein (7%), 0% vitamin A, 6% vitamin C, 2% calcium, 5% iron

Variations

Chickpeas from dried beans – dried chickpeas are even cheaper than canned. To make the equivalent of 1 can of canned chickpeas, soak 2/3 of a cup of chickpeas in at least 3 cups of water overnight. Dump out water and place in a pot, covering with at least 2 inches of water. Bring to a boil and reduce to a simmer, simmering approximately 45 minutes. Test for tenderness and drain.

Flavor variations – test out other flavors such as vegetables (try roasted red peppers) or using additional spices (such as ½ tsp ground cumin or 2-4 tbsp of tahini). Add at the end of the blending to mix in. ■

Please Keep in Touch!

D2d Clinical Sites

California

Stanford University CTSC
Palo Alto, CA
(650) 427-0785
jhau@stanford.edu

University of Southern California
Los Angeles, CA
(323) 980-8446
D2d@usc.edu

District of Columbia

MedStar Health Research Institute
Hyattsville, MD
(301) 560-2943
studies@medstar.net

Florida

Florida Hospital Translational
Research Institute
Orlando, FL
(407) 303-7193
TRI@flhosp.org

Georgia

Atlanta VA Medical Center
Atlanta, GA
(404) 321-6111 ext. 7368
rincy.varughese@va.gov

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(312) 503-3413
d2d@northwestern.edu

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d2dstudy@kumc.edu

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Baton Rouge, LA
(225) 763-3000
clinicaltrials@pbrc.edu

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Scarborough, ME
(207) 661- 7624
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REMINDERS

- Please notify your research team immediately (see above) if you are told you have diabetes and before starting any medication for diabetes.
- At your next visit, please remind your primary care doctor that you are participating in D2d.
- Please, remember to take your pill every morning with breakfast, unless otherwise instructed by the study staff. If you forget to take your pill on any given day, please take it as soon as you remember that day.
- Please notify your research team if you plan to take more vitamin D or calcium than what D2d allows, (vitamin D - 1,000 units per day, calcium - 600 mg per day).
- Please call your research team if you have any study related questions or to report changes in your health, medications, or supplements.
- Please keep study pills out of the hot sun.