

Diabetes Newsletter



1600 North Second Street

April 1, 2009

Volume 18, Issue 4

Color-Changing Tattoos Could Be the Next BG Level Detector

I thought this article was interesting. It was in the DiabetesHealth Professional E-newsletter, March 9, 2009 Issue 163.

Mar 6, 2009

Scientists at a Cambridge, Massachusetts, laboratory who set out to develop a tattoo for tracking heart health may now be on track for developing a tattoo for people with diabetes that changes color as blood glucose levels rise and fall. If it becomes a workable approach, the tattoo technology could spare millions of people the tiresome, often painful routine of pricking themselves throughout the day to produce blood samples for their glucose monitors.

Draper Laboratories, a nanotechnology company, is working on an injectable ink that contains tiny particles (about 120 billionths of a meter across) whose three components interact to indicate BG levels.

The first component is a glucose-detecting molecule; the second is a glucose-mimicking molecule; and the third is a dye that changes color depending upon the circumstances.

When injected into a person with diabetes, the particles move around "looking" for glucose. If the glucose-detecting molecules find mostly glucose—more likely if BG levels are high—they turn the ink yellow. If glucose levels are low, the molecules latch on to the glucose mimics, producing a purple color. Ideally, say the researchers, healthy BG levels will produce an "orangey" color.

The detection process, which is continuous as the nano-particles move about, takes only a few milliseconds. Even if it does not approach the accuracy of blood sample-based monitors, the tattoo could serve as both a warning system and a recovery monitoring system for too high or too low BG levels. Draper scientists say that the tattoo would not have to be large or as deep as a conventional tattoo. Experiments on mice are scheduled to begin in March. The company says that it expects human trials to begin in 2011.



Contact Information

Jamie Ketterman , RN, BSN, CDE
Golden Valley Memorial HealthCare
Diabetes Services

1600 N. Second Street
Clinton, MO 64735
jketterman@gvmh.org

660-885-2253, Ext. 6081 www.gvmh.org
Or 660-890-7084
Fax: 660-885-3427

Windsor Support Group

Clinton Support Group

TOPIC

Diabetes Burnout: What to Do When You Can't Take It Anymore!

DATE

Tuesday,
April 14, 2009

TIME

11:30 am—12:30 p.m.

PLACE

Windsor GVMH Medical Clinic Rehab Gym

Presented By:

Lacey Clouse, BSW Intern
and
Linda Jones, ACSW, LCSW

Focusing on living motivated 24/7/365

TOPIC

Diabetes Burnout: What to Do When You Can't Take It Anymore!

DATE

Thursday,
April 9, 2009

TIME

10:30—11:30 a.m.

PLACE

GVMH Medical Plaza Classroom

Presented By:

Lacey Clouse, BSW Intern
and
Linda Jones, ACSW, LCSW

Focusing on living motivated 24/7/365.

Breakfast Popovers With Parmesan

Here's a popover that's sure to please. For variety, you can swap the Parmesan for other cheeses, such as freshly grated Romano or Asiago cheese. Makes 8 popovers

Ingredients:

½ cup liquid egg substitute
1¼ cups whole grain flour
1 cup + 2 tablespoons fat-free milk
1 tablespoon trans-fat-free margarine, melted
3 tablespoons grated Parmesan cheese

Method:

1. Preheat the oven to 375°F. Coat 8 custard cups or popover-pan cups with cooking spray.
2. Whisk the egg substitute in a medium bowl. Add the flour, milk and margarine, and whisk until the ingredients are combined. Stir in the cheese.
3. Evenly divide the batter among the prepared cups. Place the cups on a large baking sheet.
4. Bake for 30 minutes, or until the popovers are puffed and golden. Remove the popovers from the cups and serve hot.

For 1 Popover: Calories: 110, Total Fat: 2 1/2 grams, Saturated Fat: 1/2 grams, Cholesterol: 0 mg, Sodium: 95 mg, Total Carbohydrate: 15 grams, Dietary Fiber: 2 1/2 grams, Protein: 6 grams

Note:

Reprinted from "The South Beach Diet Cookbook: More Than 200 Delicious Recipes," by Arthur Agatston, MD. ©2004 by Arthur Agatston, MD. Permission granted by Rodale, Inc. June 2005