

KITCHEN CREATIONS FACULTY NEWSLETTER #30

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Blood Glucose Monitoring Techniques

Recently there were two studies in Diabetes Care that showed that certain techniques can improve the accuracy of blood glucose monitoring.

In the first study the blood glucose levels of healthy volunteers who did not have diabetes were measured. First the volunteers wiped a finger with an alcohol swab and their blood glucose levels were measured. Next the volunteers peeled oranges, grapes or kiwis. Blood glucose levels were measured without cleaning up, after cleaning up with alcohol and after washing with tap water.

When the fruit peeling was followed by hand washing the blood glucose readings were the same as before volunteers had peeled any fruit. This was about 90 mg/dL, which is considered in the normal range.

When volunteers peeled fruit and took a blood glucose reading right away, the blood glucose levels shot up to about 170 mg/dL after peeling an orange, 180 mg/dL after peeling a kiwi and 360 mg/dL after peeling a grape.

If the volunteers swabbed their finger between peeling and finger pricking, the readings were still higher than usual. Even after swabbing their fingers five times the readings were high.

Often the directions that come with blood glucose meters say to wipe the finger with an alcohol swab before taking a reading. Researchers in this study say that it is best to wash the hands before using a blood glucose meter.

To get a copy of the abstract use the link below

<http://care.diabetesjournals.org/content/34/3/596.abstract?sid=765c1646-18d7-422f-9e45-cf0727634595>

The second study looked at whether using the first or second drop of blood gave a more accurate blood glucose reading. Blood glucose levels were measured on two consecutive drops of blood in patients with diabetes. Blood glucose was measured without washing hands, after exposing hands to fruit, after washing the fruit exposed hands and with application of pressure around the finger (squeezing the finger to get a drop of blood). The results were compared with control measurements.

Not washing hands led to a difference in glucose levels of 10% or more compared to the controls in 11% participants after the first drop and in 4% of participants after the second drop of blood. In fruit exposed fingers a difference of 10% or more were found in 88% of participants after the first drop of blood and 11% of participants after the second drop of blood. Different external pressures led to a difference 10% or more compared to the controls in 5 to 13% of the participants.

Researchers in this study recommend washing hands with soap and water, drying hands and using the first drop of blood when monitoring blood glucose.

To get a copy of the abstract use the link below

<http://care.diabetesjournals.org/content/34/3/556.abstract?sid=93e3d6ea-4fdc-4ec1-988d-cb1d1d9707bd>

Social Networking Websites for Diabetes

Researchers in Children's Hospital Boston Informatics Program evaluated ten diabetes websites. Nearly half of U.S. adults who use the internet participate in social networks. The researchers were looking at the quality of information. They found large variations in quality and safety across the ten sites. All had room for improvement.

Only 50 % of the sites presented content consistent with diabetes science and clinical practice standards. Even fewer offered both scientific accuracy and protections such as safeguarding personal health information, effective internal and external review processes and appropriate advertising.

Seven of the ten sites did not allow members to restrict the visibility of their profiles. Five sites carried advertisements that were not labeled as advertisements. Three sites advertised unfounded "cures".

People are sharing incredible amounts of personal health information on websites, including identifiable information. They are eager to increase their knowledge of diabetes, get support, find treatments and compare their experiences to others with diabetes. There is a large focus on the privacy of medical records in the U.S. On the other hand social networks tend to be about sharing personal information online.

The researchers evaluated diabetes websites that appeared in Google searches and allowed member to create personal profiles and interact with each other. They looked at four factors:

- agreement of content with diabetes science and clinical practice standards
- practices for auditing content and supporting transparency
- accessibility and readability of privacy policies
- the degree of control members had over sharing of personal data

The average number of members per website was 6,707. Activity ranged among the sites, from over 100 new posts per day to less than 5 new posts per day.

The majority of sites studied did not include a “disclaimer” encouraging patients to discuss their care regimen with a healthcare provider. Many sites also missed opportunities to communicate essential information, such as the definition of “A1c” a common lab value used to measure blood glucose control.

Researchers found a need for increased moderations of the websites, for credentials of the moderators to be more visible and for periodic external review. Potential conflicts of interest such as ties to pharmaceutical companies need to be clearly disclosed and privacy policies need to be easier to understand.

Safety Tips for Patients Using Online Social Networks are:

1. Look for sites where the basic description of diabetes and how to care for it is consistent with information provided by your doctor. Be very cautious of sites that advertise miracle “cures.”
2. Find the privacy policy of any website where you register as a member and make sure that you understand it.
3. Try to use sites where you have maximum control over the sharing of your health data- where you can designate whether the information you disclose will be available to anyone online, members only or members who are “friends.”
4. Look for websites that clearly label advertisements and disclose conflicts of interest.
5. Try to use sites that have moderators and at least periodically undergo external review.
6. Always remember that going online is not a replacement for visiting your doctor.

For a summary of the study go to the link below

<http://www.healthfinder.gov/news/newsstory.aspx?docID=649817>

Pre-diabetes and Pre-hypertension in Healthy Adults are Associated with Low Vitamin D Levels

The object of a study in *Diabetes Care* was to determine if modest elevations of fasting blood glucose and resting blood pressure in healthy adults are associated with differential serum vitamin D concentrations. Disease-free adults in the National Health and Nutrition Examination Survey 2001-2006 were assessed. Pre-diabetes was diagnosed using American Diabetes Association criteria which is fasting blood glucose 100-125 mg/dL. Pre-hypertension was diagnosed using Seventh Report of the Joint National Committee on Prevention, Detection and Treatment of High Blood Pressure criteria which is systolic blood pressure of 120-139 and diastolic blood pressure of 80-89 mmHg.

The men and women in the study had larger waist circumferences, higher triglyceride levels and lower HDL levels than recommended. So they had an increased risk for cardiovascular disease. The results showed that the odds ratio for Pre-diabetes, Pre-hypertension and co-existing Pre-diabetes and Pre-hypertension was 2.41 with vitamin D levels more than or equal to 76.3 versus those with vitamin D levels less than 76.3 after adjusting for age, sex and body mass index. It is possible that for people with Pre-diabetes and/or Pre-hypertension and low vitamin D levels using vitamin D supplements to increase vitamin D levels may reverse changes in fasting blood glucose and resting blood pressure.

To get the abstract use the link below

<http://care.diabetesjournals.org/gca?submit=Go&gca=diacare%3B34%2F3%2F658&allch=>

Websites, etc.

New handout on “Reading a Syringe”

Some people find it difficult to learn how to read or draw the right amount of insulin in a syringe. They may have poor number skills, cultural or language barriers, vision problems or have cognitive impairment. Learning About Diabetes has a new, free self-care aide that can be used to help someone using a syringe to read the syringe correctly.

Go to www.learningaboutdiabetes.org

Click on Handouts and Visual Aids

Under Medicine, find Reading a Syringe

Click on either English or Spanish

Check out other handouts that are available

Don't Focus on Blame

This is a blog posted on cnn.com by David Kendall, M.D., chief scientific and medical officer of the American Diabetes Association

<http://thechart.blogs.cnn.com/2011/04/15/with-diabetes-dont-focus-on-blame/>

Helping the Student with Diabetes Succeed: A Guide for School Personnel

An Updated Edition of the above guide is available from the National Diabetes Education Program. For a free copy, visit www.YourDiabetesinfo.org

Or call 1-888-693-6337

Living With Type 2 Diabetes Program

This program offers:

- Regular informational packets-via email or mail-on topics like food, physical activity and stress
- A monthly newsletter providing seasonal tips, new recipes and stories from others living with diabetes
- An invitation to meet others living with diabetes through the Association's online community
- An opportunity to meet others living with diabetes through local American Diabetes Association activities

The Living with Diabetes Program is:

- Free
- Available in English or Spanish
- Available online or via mail

People can enroll

- Online at diabetes.org/living
- By calling 1-800-342-2383

RD411.com

Go to www.RD411.com

RD411.com offers FREE access to downloadable, peer-reviewed materials that can empower professionals to do their jobs more efficiently, which, in turn, translates into improved patient care. Check out the Diabetes Center at the top left hand corner of the home page.

The Blonz Guide to Nutrition, Food Science and Health

Go to www.blonz.com

Edward Blonz earned his M.S. and Ph.D. in nutrition from the University of California at Davis, and he has more than twenty-five years of experience in the fields of health and nutrition. His Master's research was on a topic in food toxicology, and research for his Doctoral degree focused on the role of insulin in the development of obesity. Formerly on the faculty at the University of Minnesota, Blonz is an Assistant Clinical Professor in the Department of Clinical Pharmacy at the University of California, San Francisco. He is a member of the [American Society for Nutrition](#), and has been elected a Fellow of the [American College of Nutrition](#), as well as [NAASO](#), [The Obesity Society](#). Dr. Blonz is also a member of [Sigma Xi](#), The Scientific Research Society, the [National Association of Science Writers](#), the [Association of Food Journalists](#), and a professional member of the [Institute of Food Technologists](#).

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