



## **BLOOD GLUCOSE TESTING VS CDC PREDIABETES SCREEN**

### **NATIONAL & INTERNATIONAL STANDARDS & PRACTICE GUIDELINES (IS&GS)**

**HHS**=Health & Human Services & its divisions & collaborating partners (CDC etc)  
**WHO**=World Health Organization & its divisions & collaborating partners (Includes HHS)

### **I. Safety and Risks of Assisted Blood Glucose Testing** From the CDC:

The CDC has reported outbreaks of Hepatitis B from attempts to provide monitoring in healthcare facilities as well as in the health fair setting:

"The Centers for Disease Control and Prevention (CDC) has become increasingly concerned about the risks for transmitting hepatitis B virus (HBV) and other infectious diseases during assisted blood glucose (blood sugar) monitoring and insulin administration...Unsafe practices during assisted monitoring of blood glucose and insulin administration that have contributed to transmission of HBV or have put persons at risk for infection include:

- Using finger-stick devices for more than one person
- Using a blood glucose meter for more than one person without cleaning and disinfecting it in between uses
- Using insulin pens for more than one person
- Failing to change gloves and perform hand hygiene between finger-stick procedures"

### **II. Recommended Practices for Preventing Blood-borne Pathogen Transmission during Blood Glucose Monitoring and Insulin Administration in Healthcare Settings** From the CDC:

#### **Blood Glucose Monitoring**

##### **Finger-stick Devices**

- Restrict use of finger-stick devices to individual persons. They should never be used for more than one person. Select single-use lancets that permanently retract upon puncture. This adds an extra layer of safety for the patient and the provider.
- Dispose of used lancets at the point of use in an approved sharps container. Never reuse lancets.

##### **Blood Glucose Meters**

- Whenever possible, blood glucose meters should be assigned to an individual person and not be shared.
- If blood glucose meters must be shared, the device should be cleaned and disinfected after every use, per manufacturer's instructions, to prevent carry-over of blood and infectious agents. If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared.

## General

- Unused supplies and medications should be maintained in clean areas separate from used supplies and equipment (e.g., glucose meters). Do not carry supplies and medications in pockets.

## Hand Hygiene (Hand washing with soap and water or use of an alcohol-based hand rub)

- Wear gloves during blood glucose monitoring and during any other procedure that involves potential exposure to blood or body fluids.
- Change gloves between patient contacts. Change gloves that have touched potentially blood-contaminated objects or finger-stick wounds before touching clean surfaces. Discard gloves in appropriate receptacles.
- Perform hand hygiene immediately after removal of gloves and before touching other medical supplies intended for use on other persons.

## Training and Oversight

- Review regularly individual schedules for persons requiring assistance with blood glucose monitoring and/or insulin administration.
- Provide a full hepatitis B vaccination series to all previously unvaccinated staff persons whose activities involve contact with blood or body fluids.
- Establish responsibility for oversight of infection control activities. Provide staff members who assume responsibilities for finger-sticks and injections with infection control training.
- Assess adherence to infection control recommendations for blood glucose monitoring and insulin administration by periodically observing staff who perform or assist with these procedures and tracking use of supplies.
- Report to public health authorities any suspected instances of a newly acquired bloodborne infection, such as hepatitis B, in a patient, facility resident, or staff member.
- Check with state authorities for specific state and federal regulations regarding laboratory testing."

## **III. The value of the blood glucose testing in the health screening setting, even when performed safely and appropriately, has also been questioned** From the NIH:

1. Most people at health screening events are not fasting. The NIH reports that the **random plasma glucose *cannot be used to diagnose pre-diabetes***. "Individuals with pre-diabetes have an increased risk of heart disease and stroke. With modest weight loss and moderate physical activity, people with pre-diabetes can delay or prevent type 2 diabetes." A random result in the normal range may be falsely reassuring to a patient and delay appropriate counseling and treatment.

2. The NIH reports that "A **fasting plasma glucose** test is the preferred test for diagnosing diabetes because of its convenience and low cost... measures blood glucose in a person who has not eaten anything for at least 8 hours. This test is used to detect diabetes **and pre-diabetes**."

3. It is also important to determine whether the monitor is reporting **whole blood** or **plasma** glucose readings (plasma numbers read about 10 - 12% higher than the whole

blood numbers). Most newer meters provide blood glucose readings as plasma glucose readings. However, the patient and/or local clinics may be using older meters with lower readings.

4. Blood Glucose monitoring supplies are relatively expensive and are often lacking and urgently requested by local clinics in developing countries.

5. People at health screening events often request blood sugar testing because it is free.

6. Diabetes screening can be provided without the risks of blood testing by using the [CDC Prediabetes Screening Test](#)

7. Because of the above and the potential risks of hepatitis B and other life-threatening blood-borne infections, appropriate counseling to ensure informed consent of the patient is ethically required.

8. From a liability standpoint, some providers and organizations believe that patient release from liability forms and procedures are also necessary.

9. Even without the blood glucose monitoring, there is never time enough to evaluate and counsel patients appropriately on Diabetes, BP, BMI, and Tobacco Use; which are all major causes of premature death and suffering and can be performed without risk to the patient.

#### **IV. To comply with the above standards and guidelines, the patient and community may be better served with the following approach to diabetes screening in the typical health screening setting:**

1. Instead of random blood sugar testing, diabetes screening in the health screening setting is provided by using the [CDC Prediabetes Screening Test](#)

2. Patients who meet the above criteria are referred to a local clinic for a **fasting** blood glucose test and followup.

3. This enables compliance with IS&Gs and avoids patient risks of infections such as Hepatitis B and the other complications described above.

4. Instead of on-site blood testing in the health screening/health fair setting, financial and other resources may be better invested in assisting local clinics in training, equipment and supplies for high quality, safe and effective local glucose monitoring and follow-up in accordance with CDC, NIH and WHO guidelines.

References:

[CDC Infection Prevention during Blood Glucose Monitoring](#)

[CDC National Diabetes Prevention Program](#)

[NIH National Institute of Diabetes and Digestive and Kidney Diseases](#)

[WHO Diabetes Fact Sheet](#)

[WHO Global Report on Diabetes](#)

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