

Why is my blood sugar high in the morning?

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<http://diabetes.niddk.nih.gov/dm/pubs/glucosemonitor/>

Although this seems to be a more common concern in individuals with type 1 diabetes, this often happens in individuals with type 2 diabetes and even those without diabetes.

Higher morning blood sugars are commonly due to the "dawn phenomenon." The dawn phenomenon refers to the natural release of excess hormones, such as growth hormone, in the morning between 5 am to 8 am. This results in an increase in blood sugar levels in the dawn, or early morning.

Less commonly, one can have high blood sugars in the morning as a protective response to low blood sugars during the middle of the night. This is referred to as the "Somogyi effect." Another reason for a high blood sugar in the morning is that you may need a higher dose of your usual diabetes medication (insulin and or pills).

Even though both the dawn phenomenon and Somogyi effect can result in higher blood sugars in the morning, they are very different causes and have very different treatments. Your doctor may ask you to check your blood sugar at bedtime, 3 am and first thing in the morning to help distinguish between the two. For example, if your 3 am blood sugar is low, then the morning high blood sugar is probably the body's protective response to this low blood sugar (Somogyi effect). What would the treatment be? The treatment would then be to either decrease the nighttime dose of insulin or add more food at bedtime. On the other hand, if your 3 am blood sugar is also high, then the morning high blood sugar is probably due to the natural increase in hormone production in the morning (dawn effect). In this case, treatment would consist of increasing the bedtime dose of insulin or oral diabetes medication (pill) or shifting a portion of the dinnertime insulin toward bedtime.

One tool to identify changes in the body's glucose levels is to wear a Continuous Glucose Monitor (CGM) for 3-5 days. Ask your diabetes educator where this service is available.