



Hypoglycemia Unawareness

This term refers to the difficulty some people with diabetes have recognizing low blood sugar and it is probably the greatest barrier to keeping the blood sugar close to normal, at least in those patients who are affected. Why is it so important? Because if the blood sugar becomes too low, function of the brain can be temporarily impaired. This may lead simply to embarrassment - people have been known to behave in ways that are completely uncharacteristic (“as if drunk”), or it can threaten the life of the patient or someone else, for instance when this occurs while driving. Fortunately only a few patients develop this problem, and then usually only after a decade or two of diabetes. You are being given this hand-out, because you have had problems recognizing low blood sugar.

Why does this happen? We are not completely sure, but the problem probably lies in the hormones that cause the symptoms of hypoglycemia that used to be obvious - sweating, shaking, anxiety and pounding heart. These hormones are primarily epinephrine and glucagon, and they can be damaged by diabetes.

Unfortunately once a patient has had problems recognizing low blood sugar, this is much more likely to happen again. So what to do?

First we will recommend that you aim for slightly higher blood sugars than you have been trying to achieve, since research has now clearly shown that raising the average blood sugar improves symptoms of hypoglycemia.

Second research has shown that a recent low blood sugar makes another low blood sugar more likely and the symptoms more difficult to recognize!! And exercise does the same!! **INCREASE YOUR BLOOD SUGAR GOAL RANGE BY 40 mg/dl FOR 48 HOURS AFTER A SEVERE LOW BLOOD SUGAR OR AFTER VIGOROUS EXERCISE.**

Third you should spend some time training yourself to recognize hypoglycemia. This has been shown in research to be very helpful, in fact even the number of car accidents was reduced among patients so trained! Even though you are not recognizing them very well, the odds are that your body is still giving you lots of clues of hypoglycemia, which you can learn to use. And there are also clues in what you have been doing in the last 24 hours. More details are on the next page.

Fourth – if you are a driver – we will ask you to check your blood sugar before driving and then every 30 minutes while driving. You should not drive if your blood sugar is below your goal range; rather you should use quick acting glucose to raise the blood sugar, measure it again to show that it is up, and then drive. Remember that this is a “Catch 22” situation. If you could judge that you are still OK to drive, then you could drive; but you actually lose that ability to judge hypoglycemia, so you must go by the number and not by how you feel. (Research has shown that even people who do recognize hypoglycemia and judge themselves still able to drive actually do not do as well driving when the blood sugar is less than 70 mg/dl!!)

Blood Glucose Awareness Training

The key to this is to keep a diary of possible clues and symptoms (you can use the attached log sheet - last page, make yourself lots of copies, or you can make a log of your own). Before each blood test you do, whether it be a routine blood test before a meal or an extra blood test because you are concerned, write down a list of the possible internal clues and rank them, write down a list of the external clues, then guess whether your blood sugar is less than 70 mg/dl or greater. And then measure it. If your blood sugar was indeed below 70 mg/dl think again and see if there may be additional clues or symptoms you had missed (and write these down).

Here are the common internal clues (rank them in severity, 1 = mild; 2 = obvious):

| | | | |
|----|--------------------------|----|----------------|
| DC | difficulty concentrating | WE | weakness |
| TR | tremor | LH | lightheaded |
| SW | sweating | CN | confusion |
| UC | uncoordinated | DS | drowsy/sleepy |
| NE | nervous | SS | slurred speech |
| PH | pounding heart | BV | blurred vision |
| ST | slowed thinking | NL | numb lips |
| HU | hunger | O1 | |
| FA | fatigue | O2 | |
| HA | headache | | |

(O1, O2, etc. mean your own particular symptoms)

And here are the important external events to consider:

Have you been more active?

Have you eaten less at the last meal?

Had you taken more insulin at your last dose?

Have you had a low blood sugar in the last 24 hours (**if you have, it's more likely to happen again**)?

After obtaining ~ 50 results, see how good you are at guessing if your blood sugar is low and see which of your cues are good - see WORKSHEET, next page. With this information obtain another 50 results and repeat the process, etc. Research has shown that you will get much better at recognizing low blood sugars.

And you can learn to do the same for high blood sugar, say greater than 250 mg/dl.

But for all this to help you also need to train yourself to think about your blood sugar, be it subconsciously, every so often. Get a cheap alarm watch and set it to chime every 30 minutes. Every time it does, consider whether your blood sugar could be low and if you think it could be, test it. Pretty soon you will not need the chime and you will not really need to interrupt what you are doing, to mentally "check" your blood sugar.

FOR LOW BLOOD SUGAR BEWARE OF THE FOLLOWING SITUATIONS

You are much more likely to miss the symptoms of hypoglycemia when you are:

Tired

Distracted / busy (distracted could be by pleasant, unpleasant or neutral events!!)

Ill

IN THESE SITUATIONS WATCH OUT

