

Red Flag: Hypoglycemia



What is a red flag?

A red flag is a symptom that you feel that is different than other symptoms in that it requires emergency or more rapid treatment.

For people with diabetes, this is generally a condition called “hypoglycemia”. This is when your blood sugar gets too low. The majority of people with type 2 diabetes are controlling their blood sugar with lifestyle changes and pills. More and more people though are requiring insulin to control their blood sugars. This is important because insulin is very effective for helping control blood sugars but it also raises your risk of hypoglycemia.

What happens in “hypoglycemia”?

What typically happens is that the level of insulin and sugar in your body becomes unbalanced. This can be a result of your own natural insulin or insulin that you inject. Certain pills are also more likely to cause a problem. For example, a commonly used medication such as glyburide, which is called a “sulfonylurea”, works by stimulating your own natural insulin production.

Your brain and your hormones need sugar to work properly. When sugar is low, your body, and especially your brain, doesn’t work as well as it otherwise should. What this means to you are symptoms such as trembling, confusion, and weakness.

How common is hypoglycemia?

The largest study on people with type 2 diabetes, called the UKPDS, showed that per year:

- 37% of people taking insulin injections experienced hypoglycemia
- 17% of people taking “sulfonylureas” such as glyburide experience hypoglycemia
- 0.9% of people using lifestyle alone to manage their sugars experience hypoglycemia

Most of these people were able to self-manage their hypoglycemia. When we look at how many needed to go to the hospital to get help, this translated into an event rate of 2.3% for insulin users, 0.7% for sulfonylurea users, and 0.03% of people using just lifestyle.

What are the symptoms of hypoglycemia?

The “first” symptoms of hypoglycemia are not necessarily the most common. This is important to know as early treatment is crucial.

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This table outlines the key symptoms, when they happen, and how common they are:

Signs and symptoms most commonly associated with hypoglycemia are not always the first to appear		
SYMPTOM	FREQUENCY (%)	FIRST SYMPTOM (%)
Sweating	78	25
Trembling	62	6
Inability to concentrate	49	6
Confusion	40	3
Weakness	36	4
Dry mouth	35	0
Blurred vision	34	3
Hunger	33	3
Anxiety	26	1
Headache	21	0
Difficulty walking	21	3
Pounding heart	20	0
Tingling around mouth	20	6
Difficulty speaking	17	0
Drowsiness	15	0
Odd behavior	13	1
Nausea	13	0

From Cefalu CA, Cefalu WT, *Journal of Family Practice*, Oct 2005 and adapted from Hepburn, Macleod, Pell et al. *Diabetes Med*, 1993.10:231-7

You can see from this list that there are many symptoms of low blood sugar but that excessive sweating (even when sitting quietly) is a key first sign.

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How do I treat hypoglycemia?

The first treatment is prevention. This includes:

- Having your meals at regular times and trying not to skip meals.
- Taking your medications at regular times.
- If you take insulin, it is important that you watch your “finger prick” blood sugars closely and develop a safe system that works for you. You need to be flexible so that if your eating or activity changes significantly, you can adjust your dose accordingly.
- Know your personal symptoms of hypoglycemia
- Make sure your family, friends, and fellow workers know them as well.
- Have “sugar” available. Glucose tablets (that you can purchase at your pharmacy are less tempting to have in your bag than candy, but certainly a candy will do.

For treatment of an episode

If you have the symptoms of a “reaction”, have one of these “quick fix” foods right away to raise your blood glucose:

- 2 or 3 glucose tablets (available at your pharmacy)
- 1/2 cup (4 ounces) of any fruit juice
- 1/2 cup (4 ounces) of a regular (**not diet**) soft drink
- 1 cup (8 ounces) of milk
- 5 or 6 pieces of hard candy
- 1 or 2 teaspoons of sugar or honey

After 15 minutes, check your blood glucose to make sure that it is no longer too low. If it is still too low, have another serving. Repeat these steps until your blood glucose is at least 4 mmol. Then, if it will be an hour or more before your next meal, have a snack that will continue to raise your blood slowly.

Finally...

If you are having frequent episodes of hypoglycemia, remember that diabetes care is a team sport and consult with your pharmacist, nurse, or doctor.

