

Nighttime – Low Blood Sugars - Hypoglycemia

It is necessary to keep blood sugars at a higher level at bedtime and overnight than during the day to ensure that the blood sugar will not get too low during the night. **The greatest risk for seizures due to a low blood sugar occurs during the night.** Nighttime low blood sugars can occur and be a problem for these reasons:

- Exercise can cause delayed drops in blood sugar.
- Insulin doses are too high.
- Not enough carbohydrate was eaten for amount of insulin given.
- The child is asleep or unobserved therefore making it difficult to see symptoms of low blood sugar.

This is how you treat low blood sugars at bedtime and overnight. If you need to treat a low blood sugar at bedtime or overnight **add protein** (for example, peanut butter) to the carbohydrate in the snack to help keep the blood sugars up overnight. There are two ranges of blood sugars to treat when a person is low because more carbohydrate is needed if the blood sugar is less than 50.

For patients younger than 5 years of age: the desired nighttime blood sugar range is 100-180:

Bedtime or Overnight Blood Sugar: 51 - 100

Treatment

1. Give 7.5 grams of fast acting, easy to swallow carbohydrate.
2. Retest blood sugar in 15 minutes to make sure it is over 100. If it is above 100 move to step 4, if not above 100 move to step 3.
3. If blood sugar is not above 100, **repeat** treatment with 7.5 grams of fast acting carbohydrate every 15 minutes and retest blood sugar until it is over 100.
4. Once the blood sugar is over 100, give 7.5 grams of long acting carbohydrate with protein.
5. Check blood sugar at 12 midnight and 3 am or within 3 hours.

Bedtime or Overnight Blood Sugar: 50 or less

Treatment

1. Give 15 grams of fast acting, easy to swallow carbohydrate.
2. Retest blood sugar in 15 minutes to make sure it is over 100. If it is above 100 move to step 4, if not above 100 move to step 3.
3. If blood sugar is still 50 or less, **repeat** treatment with 15 grams of fast acting carbohydrate. If blood sugar is 51-100, follow directions as above for blood sugars 51-100. Repeat a fast acting carbohydrate treatment every 15 minutes and retest blood sugar until it is over 100.
4. Once the blood sugar is over 100, give 7.5 grams of long acting carbohydrate with protein.
5. Check blood sugar at 12 midnight and 3 am or within 3 hours.

patient education program

8200 Dodge Street Omaha, NE 68114-4113 402-955-5400 ChildrensOmaha.org

For patients 5 years of age and older the desired nighttime blood sugar range is 90-150:

Bedtime or Overnight Blood Sugar: 51- 90

Treatment

1. Give 15 grams of fast acting, easy to swallow carbohydrate.
2. Retest blood sugar in 15 minutes to make sure it is over 90. If it is above 90 move to step 4, if not above 90 move to step 3.
3. If blood sugar is not above 90, **repeat** treatment with 15 grams of fast acting carbohydrate **every 15 minutes and retest blood sugar until it is over 90.**
4. Once the blood sugar is over 90, give 15 grams of long acting carbohydrate with protein.
5. Check blood sugar at 12 midnight and 3 am or within 3 hours.

Bedtime or Overnight Blood Sugar: 50 or less

Treatment

1. Give 30 grams of fast acting, easy to swallow carbohydrate.
2. Retest blood sugar in 15 minutes to make sure it is over 90. If it is above 90 move to step 4, if not above 90 move to step 3.
3. If blood sugar is still 50 or less, **repeat** treatment with 30 grams of fast acting carbohydrate and if blood sugar is 51-90 follow directions as above for blood sugars 51-90. Repeat a fast acting carbohydrate treatment **every 15 minutes and retest blood sugar until it is over 90.**
4. Once the blood sugar is over 90, give 15 grams of long acting carbohydrate with protein.
5. Check blood sugar at 12 midnight and 3 am or within 3 hours.

| 7.5 Grams Fast Acting Carbohydrate Ideas | 15 Grams Fast Acting Carbohydrate Ideas |
|---|---|
| ¼ cup (2 ounces) juice ¼ cup of regular soda pop ½ tablespoon sugar ½ tablespoon syrup ½ tube glucose gel ½ tablespoon regular jelly | ½ cup (4 ounces) juice ½ cup of regular soda pop 1 tablespoon sugar 1 tablespoon syrup 3-4 glucose tabs 1 tablespoon honey |

| 7.5 Grams Long Acting Carbohydrate Ideas | 15 Grams Long Acting Carbohydrate Ideas |
|---|---|
| ½ slice of bread 2 graham cracker squares 3 saltine crackers 21 gold fish crackers ¼ cup chocolate milk ½ cup milk 4 ounces of formula/breastmilk Any 7.5 gram carbohydrate item | 1 slice of bread 3 graham cracker squares 6 saltine crackers ½ cup chocolate milk 1 cup milk Any 15 gram carbohydrate item |

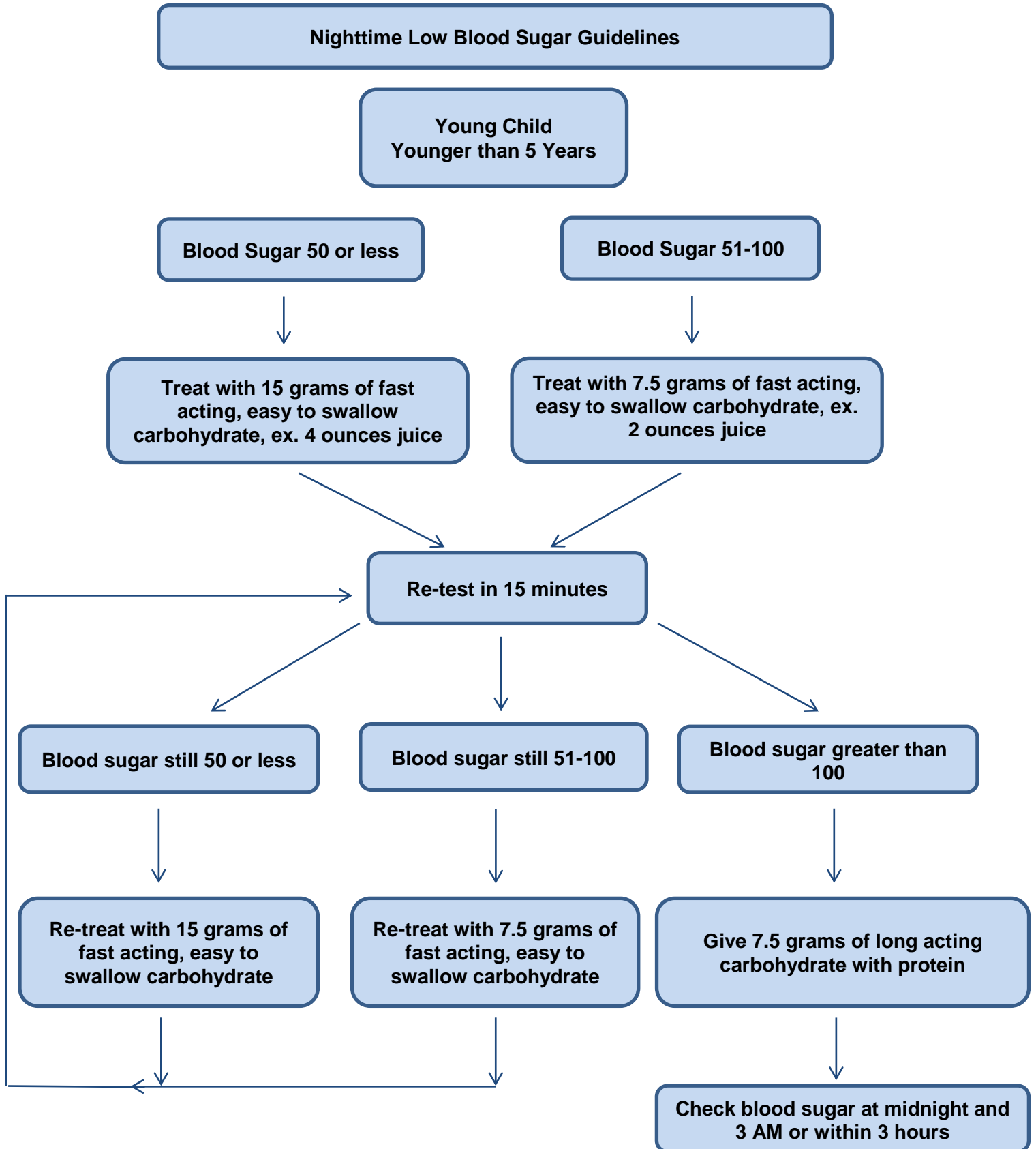
Remember:

¼ cup = 2 ounces

½ cup = 4 ounces

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Nighttime Low Blood Sugar Guidelines

School Age
5 Years and Older

Blood Sugar 50 or less

Blood Sugar 51-90

Treat with 30 grams of fast acting, easy to swallow carbohydrate, ex. 8 ounces

Treat with 15 grams of fast acting, easy to swallow carbohydrate, ex. 4 ounces juice

Re-test in 15 minutes

Blood sugar still 50 or less

Blood sugar still 51-90

Blood sugar greater than 90

Re-treat with 30 grams of fast acting, easy to swallow carbohydrate

Re-treat with 15 grams of fast acting, easy to swallow carbohydrate

Give 15 grams of long acting carbohydrate with protein

Check blood sugar at midnight and 3 AM or within 3 hours