Diabetes Care and Education
a dietetic practice group of the
Academy of Nutrition and Dietetics

Mealtime insulin management

What is mealtime insulin?

Insulin keeps blood glucose in balance. If blood glucose levels are too high, two types of insulin may be used to improve blood glucose: **long-acting** and **rapid-acting. Long-acting** insulin helps control blood glucose throughout the day, while **rapid-acting** insulin manages levels at meal time.

Over time, if you take oral diabetes medications, or are on a once or twice a day, long-acting insulin schedule, you may notice higher blood glucose levels after meals, or your blood work may show increased A1c values. To help you better control your diabetes, providers may add mealtime insulin to your treatment plan, taken before each meal.

Are there different types of mealtime insulin?

If your health care provider adds mealtime insulin to your treatment plan, keep in mind there are several types to choose from. Each is unique, so work with your provider and registered dietitian nutritionist to determine which kind is right for you.

- **Rapid-acting insulin:**
  - ◊ Take 5-15 minutes before or right after eating.
  - ◊ Works quickly; must be synchronized with meal time
- **Short-acting insulin:**
  - ◊ Take about 30 minutes before eating
  - ◊ Works slower than rapid-acting insulin, but also lasts longer
- **Mixtures:**
  - ◊ Take only twice a day before a meal (usually)
  - ◊ Is not as flexible as rapid-acting or short-acting insulin in terms of meal timing and food choices
  - ◊ Combines two different types of insulin in the same bottle
  - ◊ May help cover up to two meals
  - ◊ Lasts longer than rapid-acting or short-acting insulin

How will taking mealtime insulin affect your lifestyle?

Benefits	Considerations
Greater control	Insulin and supplies need to be brought for meals eaten away from home; insulin pens and travel cases can make this easier.
More food choices and flexibility with timing of meals and snacks	Taking insulin at meals does not mean you can eat whatever you choose; you should still follow a balanced, healthy meal plan.
Easy to use	You may need to learn how to use a sliding scale plan, or an insulin-to-carbohydrate ratio, to figure out your dose. Your diabetes team will help you with this.
After-meal blood glucose closer to goals	There is a higher risk of low blood glucose if meals are delayed. Have glucose tablets, gels or treatments available at all times.

Why is a meal plan important?

As part of your overall diabetes plan, a registered dietitian nutritionist can help you design a meal plan that features a broad range of healthy foods, including carbohydrates. While carbohydrate rich foods like sweets, fruits, grains, starchy vegetables, milk and yogurt can raise your blood glucose, many also provide important nutrients. Work them into your meal plan by following these tips:

- Know your carbohydrate goals for each meal (grams or choices).
- Determine how much carbohydrate is in the food you eat at each meal.
- Try to eat the same amount of carbohydrate at each meal, or work with your registered dietitian nutritionist to learn how to match your mealtime insulin to your carbohydrate intake.

My mealtime insulin plan

My long-acting insulin is called _____.

I take _____ units at _____o'clock,

and _____ units at _____o'clock.

My mealtime insulin is called _____*.

I take:

_____ units at breakfast.

_____ units at lunch.

_____ units at dinner.

* Remember to take this insulin _____ min.

before / after meals.

How well is your insulin-management plan working?

To find out how well your insulin plan is working, visit your diabetes team regularly so they can help you identify your glucose target range. Then, in between visits, follow these six steps to success:

1. Check your blood glucose before and after meals. Your diabetes team will tell you when to check after each meal; it may be one or two hours after your first bite. This information will help show whether your insulin plan is working well or not.
2. Track your results in a log book, or download your meter to software or an app that organizes your readings. Include the type and amount of foods you eat, especially carbohydrates.
3. Share these records with your diabetes team at regular intervals. They will monitor changes in your glucose at meal times and adjust your insulin dose, if necessary.
4. Be honest with your food records. If you are not satisfied with your progress, or feeling frustrated, discuss your feelings with a registered dietitian nutritionist and ask for assistance.
5. Remember, reaching your goal may take some time. Be patient and talk to your health care team if you feel discouraged or challenged.
6. See your health care provider regularly. He or she will track your progress by reviewing your records and obtaining hemoglobin A1c lab results.

Being in control of diabetes feels great. Adding mealtime insulin to your daily schedule and following a balanced meal plan will bring you that much closer to achieving this goal!

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