

## Insulin Issues for Travel

Being prepared is essential for people with diabetes when they travel, especially for those who use insulin. The following are considerations and important points to discuss with your patients who will be traveling.

### Before Embarking

- Recommend that patients schedule an appointment with their healthcare provider well in advance of their trip. This allows time for the patient to work on improving diabetes control, if necessary, address any medical issues, receive any immunizations that might be needed, and obtain necessary diabetes supplies and documentation.
- All medications must display the original pharmacy label. Recommend that patients save their insulin vial and insulin pen boxes, where the label is typically found.
- Advise patients to obtain a letter from their healthcare provider stating that the person has diabetes and outlining the treatment (e.g., diabetes pills, insulin). The letter should list the name of the diabetes medication and type of device used, such as syringe, insulin pen, or insulin pump.
- Patients should also ask their provider for a prescription for their insulin and/or diabetes pills, as well as other diabetes supplies, such as test strips or glucagon, in the event of an emergency while traveling.
- Patients who are traveling internationally and who take insulin should continue to use the exact type of insulin that they use at home. Insulin in the United States is of U-100 strength but may be of U-40 or U-80 strength in other countries. If it's necessary to use a different strength insulin when traveling, instruct the patient to use the appropriate type of syringe (e.g., U-40 or U-80) as well.
- For patients who take insulin and will be traveling across time zones, carefully review the following insulin adjustment guidelines. The objective is to match the insulin regimen to the time zone of the destination as soon as possible.
- Recommend patient monitor blood glucose at least every 3-4 hours.

### Time Zone Changes

#### Meal-time/Bolus Insulin

Doses of rapid or short-acting insulin (bolus insulin) can be given every 3-4 hours, followed by a meal or snack. To lower the risk of hypoglycemia, advise patient not to give pre-meal insulin until the meal is actually served.

#### Basal Insulin

##### If traveling east (losing more than 3-4 hours in their 24-hour day):

1. If on glargine or detemir, patient should continue to take basal insulin every 24 hours, according to their original time zone. Alternatively, patient can gradually change basal dose by 1-2 hours per day over several days to adjust to the new time zone.
2. If on NPH, the patient should decrease the dose by an amount equal to the percentage of the day lost, i.e., 6 hours = 25% of the day = 25% reduction in NPH. Alternatively, the patient can eliminate the NPH and take Regular insulin every 4-6 hours or lispro, aspart or glulisine every 3-4 hours until they arrive in the new time zone, then resume "usual" timing.

**If traveling west (gaining 3-4 hours or more in their 24-hour day):**

1. If on glargine or detemir, patient can continue to take basal insulin every 24 hours, according to original time zone. Alternatively, patient can gradually change basal dose by 1-2 hours per day to adjust to the new time zone.
2. If on NPH, patient may need more insulin equal to the percentage of the day gained. Add an extra (booster) dose of rapid or short-acting insulin during the day before additional meals. A suggested way of calculating a booster dose or rapid or short-acting insulin is to take 10% of the 24-hour insulin dose.

Patients using an insulin pump should discuss adjustments with their pump trainer.

**Carry-On Items**

Suggest patients carry the following items when traveling:

- All diabetes supplies, including insulin, a blood glucose meter, test strips and ketone strips. Supplies stored in luggage in the cargo section of the plane or in the trunk of a car may freeze, overheat, be lost or be delayed in arrival.
- Glucose meters can go through the security x-ray check. Tell patients to inform airport security staff if they are wearing an insulin pump.
- Extra supplies (enough for an extra 1-2 weeks for long trips)
- Treatment for hypoglycemia and extra snack foods in case meals are delayed
- Prescriptions for all diabetes supplies. Original prescription labels are recommended for plane travel to avoid airport delays at security checks.
- Any other medications that the patient takes, in original, labeled containers
- List of emergency contact numbers
- Medical identification

**Food**

- Patients can eat the “regular” meal served on the plane; however, a “low fat”, “diabetic” or “vegetarian” meal may better meet the patient’s meal plan or carb counting guidelines.
- Special meals can be ordered ahead of time through the travel agent or the airline.
- Short trips mean that meals may not be served; in that case, granola or energy bars, dried or fresh fruit, peanut butter crackers, and trail mix are convenient snacks.

**Hypoglycemia**

- Encourage patients to carry treatment for hypoglycemia at all times during their trip. Glucose tablets and glucose gel are convenient and travel well, but other items, such as raisins, hard candy or juice boxes may be used, too.
- Insulin-users should also carry a glucagon kit with them. A travel companion should be instructed on how to recognize hypoglycemia symptoms and prepare and inject glucagon.
- All people with diabetes should wear or carry some form of medical alert identification, especially when traveling.

**Resource**

The Diabetes Travel Guide, 2<sup>nd</sup> Edition, by Davida F. Kruger, MSN, APRN-BC, BC-ADM, American Diabetes Association, 2006.